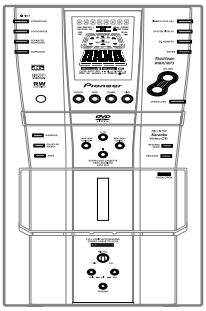
Pioneer sound.vision.soul

Service Manual



XV-EV61

ORDER NO.
RRV2793

STEREO DVD TUNER DECK RECEIVER

XV-EV61
XV-EV31

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Regionalrestriction codes (Region No.)	The voltage can be converted by the following method.
XV-EV61	DLXJ/NC	110-127V/220-230V/240V	3	With the voltage selector
XV-EV31	DLXJ/NC	110-127V/220-230V/240V	3	With the voltage selector

This product is component of system.

Component	System	System	Service manual
MINI SYSTEM	X-EV61D	X-EV31D	
Stereo DVD Tuner Deck Receiver	XV-EV61	XV-EV31	RRV2793(This manual)
Speaker System	S-EV61V	S-EV31V	RRV2776(EV61), RRV2800(EV31)

For details, refer to "Important symbols for good services" .

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ⓒ**PIONEER CORPORATION 2003**

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SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING !

THE AEL (ACCESSIBLE EMISSION LEVEL) OF THE LASER POWER OUTPUT IS LESS THAN CLASS 1 BUT THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS 1.
A SPECIALLY INSTRUCTED PERSON SHOULD DO SERVICING OPERATION OF THE APPARATUS.

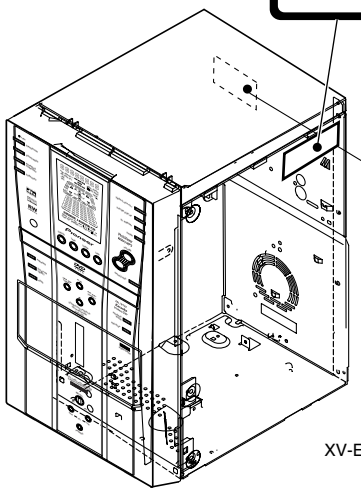
LASER DIODE CHARACTERISTICS

FOR DVD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 650 nm
FOR CD : MAXIMUM OUTPUT POWER : 7 mW
WAVELENGTH : 780 nm

LABEL CHECK

CAUTION	: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
VORSICHT	: SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENNABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN!
ADVARSEL	: SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARNING	: SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN.
VARO!	: AVATTAESSA ALTISTUT NÄKYVÄ JA NÄKYMÄTTÖMÄLLE LASERSATEIL YLLE. ÄLÄ KATSO SÄTEESEN.

VRW1699



XV-EV61/DLXJ/NC

CLASS 1
LASER PRODUCT

(Printed on the Rear Panel B)

Additional Laser Caution

1. Laser Interlock Mechanism
   - Loading switch (S101 on the LOAB Assy) is used for interlock mechanism of the laser.
     When this switch turned ON in SW2 (XCLOSE) side (OPEN signal is 0V and XCLOSE signal is 3.5V), a laser becomes the status which can completely oscillation.
     Furthermore, the laser completely oscillates in the disc judgment and disc playback.
     When player is power ON state and laser diode is not completely oscillating, 780nm laser diode is always oscillating by half power.
   - Laser diode is driving with Q101 (650nm LD) and Q102 (780nm LD) on the DVDM Assy.
     Therefore, when short-circuit between the emitter and collector of these transistors or the base voltage is supplied for transistors turn on, the laser oscillates. (failure mode)
   - In the test mode ∗ , there is the mode that the laser oscillates except for the disc judgment and playback. LD ON mode in the test mode oscillates with the laser forcibly.
     The interlock mechanism mentioned above becomes invalid in this mode.

2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

∗ : See page 107

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

Discs compatible with this player

Any disc that displays one of the following logos should play in this player. Other formats, including DVD-Audio, DVD-RAM, DVD-ROM, CD-ROM (except those that contain MP3 and WMA files), SACD will not play.

DVD-Video DVD-R DVD-RW

Audio-CD Video-CD CD-R * CD-RW *

Super Video CD (Super VCD)

Fuji Color-CD

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1. SPECIFICATIONS

Specifications

Amplifier Section

X-EV61DVD model

Continuous power output:

Front . . . . . 75 W per channel (1kHz, 10 % T.H.D., 6 Ω)

Center . . . . . 75 W (1kHz, 10 % T.H.D., 6 Ω)

Surround . . . . . 75 W per channel (1kHz, 10 % T.H.D., 6 Ω)

Subwoofer . . . . . 75 W (100Hz, 10 % T.H.D., 6 Ω)

X-EV31DVD model

Front . . . . . 75 W + 75W (1 kHz, 10 % T.H.D., 6 Ω)

Subwoofer . . . . 100 W (100Hz, 10 % T.H.D., 6 Ω)

Disc section

Digital audio characteristics . . . . . DVD fs: 96 kHz, 24-bit

Type .DVD system, Video CD/Super VCD system and Compact Disc digital audio system

Frequency response . . . . . 4 Hz to 44 kHz

S/N ratio . . . . . .95 dB

Dynamic range . . . . . .95 dB

Total harmonic distortion . . . . . 0.005 %

Wow and Flutter . . . . . .Limit of measurement (±0.001 % W.PEAK) or less (JEITA)

Cassette deck section

Systems . . . . . 4 track, 2-channel stereo

Heads . . . . . Recording/playback head x 1
Erasing head x 1

Motor . . . . . DC servo motor x 1

Tape types . . . . . Type I (Normal)

FM tuner section

Frequency range . . . . . 87.5 – 108MHz

Antenna . . . . . 75 Ω, unbalanced

AM tuner section

Frequency range

With 9 kHz step . . . . . 531 kHz to 1,602 kHz

With 10 kHz step . . . . . 530 kHz to 1,700 kHz

Antenna . . . . . Loop antenna

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories.

Miscellaneous

Power requirements . . . . . .AC 110-127/220-230/ 240 V (switchable), 50/60 Hz

Power consumption

X-EV61DVD model

. . . . . 192 W

X-EV31DVD model

. . . . . 160 W

Power consumption in standby mode . . . 0.5 W

Dimensions:

DVD Tuner Deck Receiver

. . . . . 170 (W) x 350.5 (H) x 335 (D) mm

Weight:

DVD Tuner Deck Receiver

XV-EV61 . . . . . 8.3 kg

XV-EV31 . . . . . 8.2 kg

Accessories (Stereo DVD Cassette Deck Receiver)

Remote control 1

Power cord 1

Video cord 1

AM loop antenna 1

FM antenna 1

Dry cell batteries (AA/R6) 2

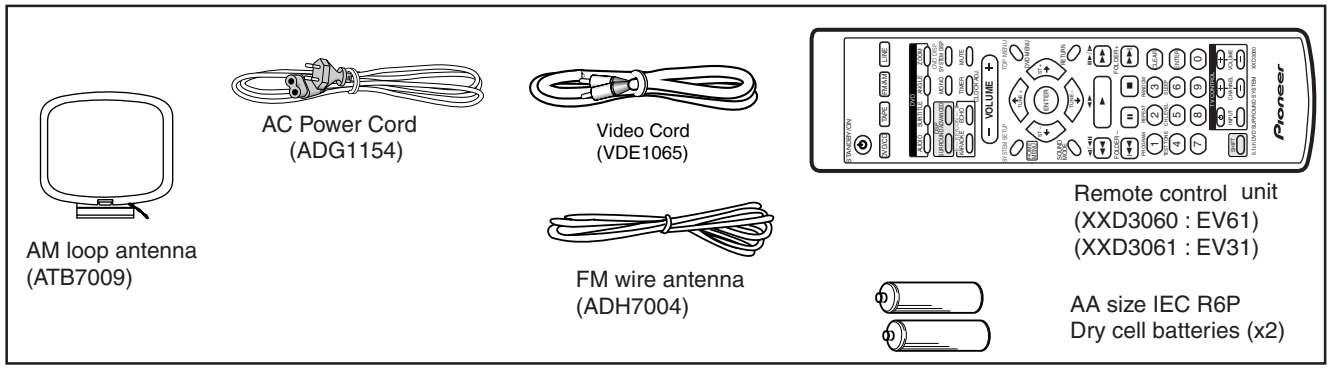
Operating instructions 2

Note

- Specifications and design subject to possible modification without notice, due to improvements.

"DTS" and "DTS Digital Sur round" are registered trademarks of Digital Theater Systems, Inc. Manufactured under license from Digital Theater Systems, Inc.

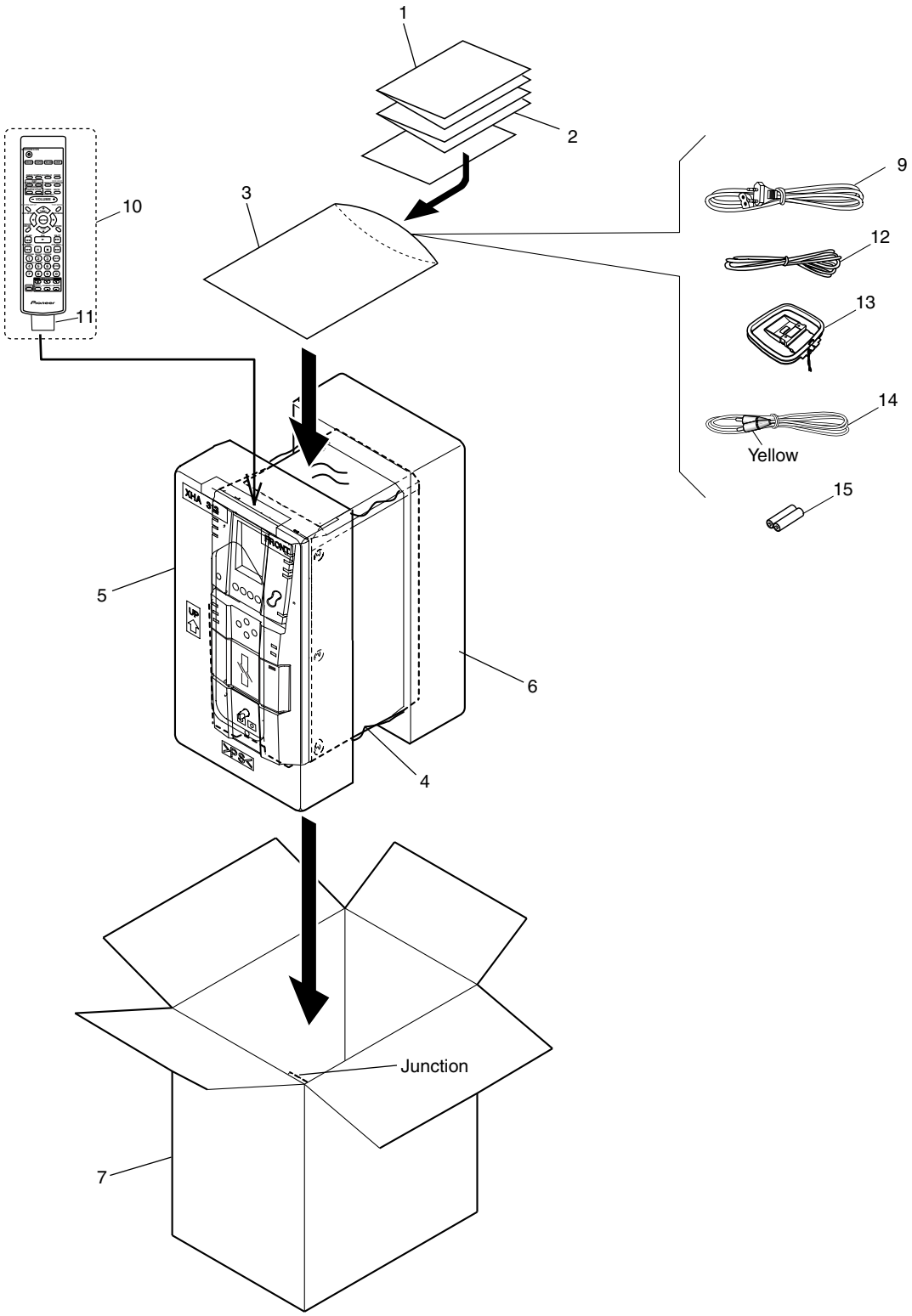
Accessories



2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING



PACKING parts List

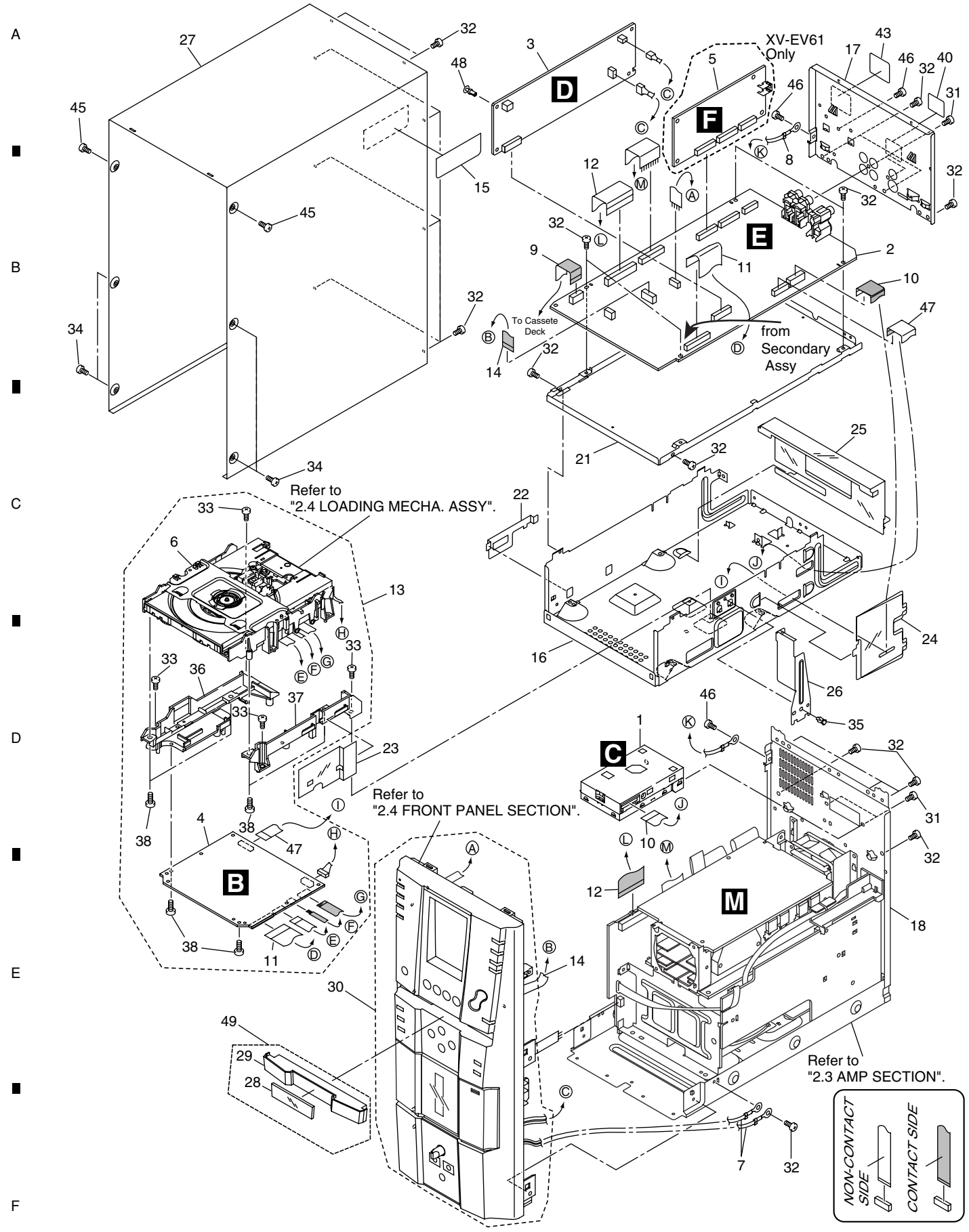
Mark	No.	Description	Part No.
	1	Operating Instructions (English)	XRB3026
	2	Operating Instructions (Chinese)	XRC3109
NSP	3	Polyethylene Bag (0.03 x 230 x 340)	AHG1180
	4	Packing Sheet	XHG3010
	5	Front Pad	XHA3136
	6	Rear Pad	XHA3137
	7	Packing Case	See Contrast table (2)
	8	• • • •	
⚠	9	AC Power Cord	ADG1154
	10	Remote Control Unit	See Contrast table (2)
	11	Battery Cover	AZA7424
	12	FM Anternna	ADH7004
	13	AM Loop Anternna	ATB7009
	14	Video Cord (Yellow 1P)	VDE1065
NSP	15	Dry Cell Battery (AA/R6)	VEM1031

(2) CONTRAST TABLE

XV-EV61/DLXJ/NC and XV-EV31/DLXJ/NC are constructed the same except for the following :

Mark	No.	Symbol and Description	XV-EV61/DLXJ/NC	XV-EV31/DLXJ/NC
	7	Packing Case	XHD3355	XHD3360
	10	Remote Control Unit	XXD3060	XXD3061

2.2 EXTERIOR SECTION



EXTERIOR SECTION parts List

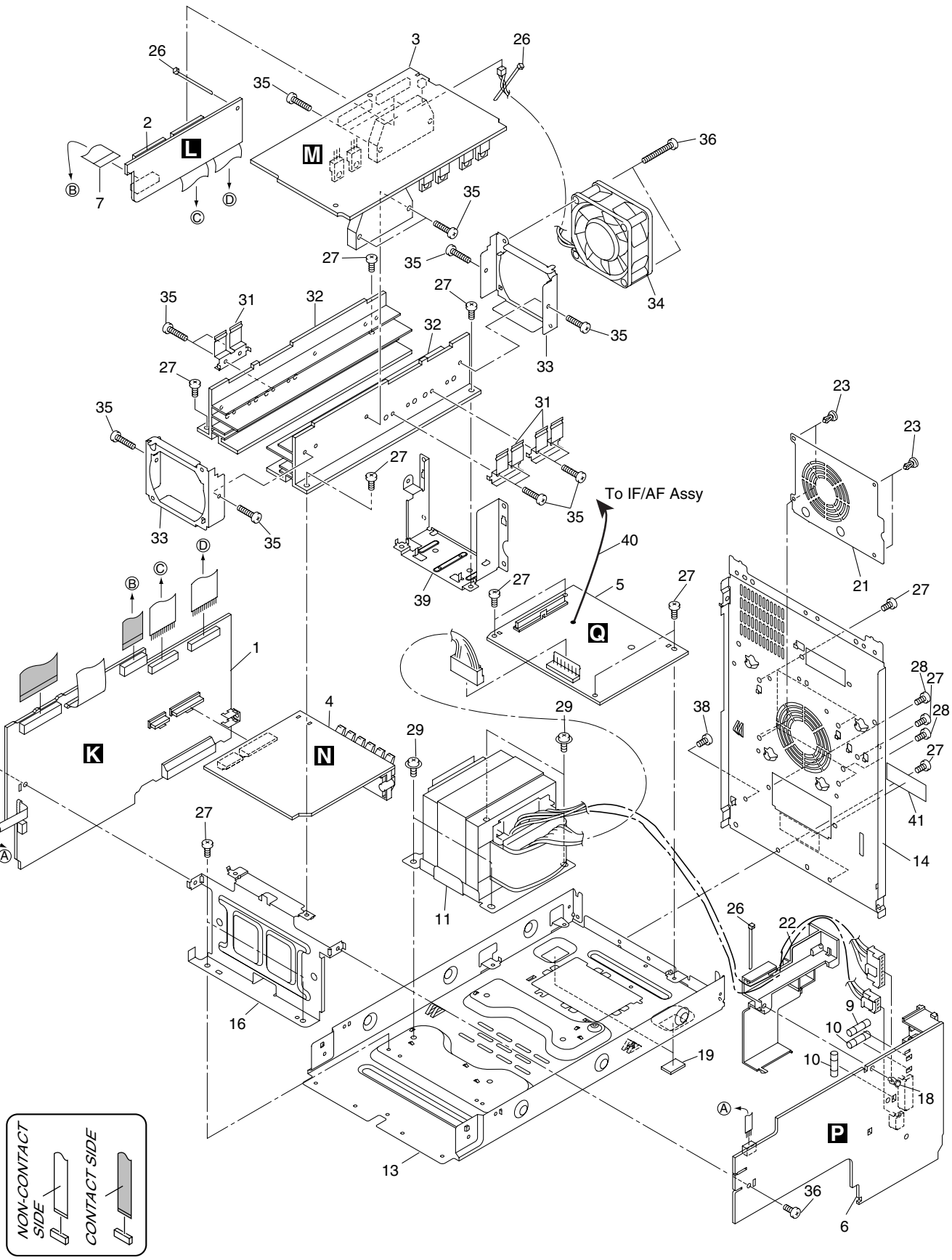
Mark	No.	Description	Part No.
	1	FM/AM TUNER Module	AXQ7228
	2	IF_AF Assy	See Contrast table (2)
	3	DECK Assy	See Contrast table (2)
	4	DVDM Assy	See Contrast table (2)
	5	DSP Assy	See Contrast table (2)
NSP	6	LOADING MECHA Assy	VWT1208
NSP	7	Earth Lead Wire	DE007VF0
NSP	8	Earth Lead Wire	DE015VF0
	9	11P Flat Flexible Cable	XDD3142
	10	13P Flat Flexible Cable	XDD3140
	11	30P Flat Flexible Cable	XDD3137
	12	30P Flat Flexible Cable	XDD3143
NSP	13	DVD ASSY	See Contrast table (2)
	14	12P Flat Flexible Cable	XDD3141
NSP	15	Laser Caution Label	VRW1699
	16	Mecha Frame	XNG3102
	17	Rear Panel A	See Contrast table (2)
	18	Rear Panel B	See Contrast table (2)
	19	• • • •	
	20	• • • •	
	21	DVD Shield	XNG3103
	22	Pri Holder	XMR3084
	23	Barrier S	AEC7429
	24	FFC Barrier A	XEC3048
	25	FFC Barrier B	XEC3053
	26	DECK PCB Holder	XNG3115
	27	Bonnet Case	XZN3132
NSP	28	Tray Panel	XAK3398
NSP	29	Tray Cap	XAK3397
	30	Front Panel Assy	See Contrast table (2)
	31	Screw	VPZ30P080FZK
	32	Screw	BBZ30P080FZK
	33	Screw	BBZ30P080FMC
	34	Screw	BBZ30P080FNI
	35	Push Rivet	XEC3034
	36	Adaptor 02 L	ANW7267
	37	Adaptor 02 R	ANW7268
	38	Screw	BPZ30P080FMC
	39	• • • •	
NSP	40	SISIR Label	XAX3397
	41	• • • •	
	42	• • • •	
NSP	43	ID Label	VXW1002
	44	• • • •	
	45	Screw	BPZ30P080FNI
	46	Screw	BCZ30P060FMC
NSP	47	FFC Cable	See Contrast table (2)
	48	Rivet	AEC7205
	49	Tray Cap Assy	XXG3155

(2) CONTRAST TABLE

XV-EV61/DLXJ/NC and XV-EV31/DLXJ/NC are constructed the same except for the following :

Mark	No	Symbol and Description	XV-EV61/ DLXJ/NC	XV-EV31/ DLXJ/NC
	2	IF_AF Assy	XWZ3726	XWZ3733
	3	DECK Assy	XWX3072	XWX3073
	4	DVDM Assy	AXM7808	AXM7809
	5	DSP Assy	AWX8254	Not used
NSP	13	DVD Assy	AXA7121	AXA7122
	17	Rear Panel A	XNC3205	XNC3226
	18	Rear Panel B	XNC3206	XNC3233
	30	Front Panel Assy	XXG3156	XXG3158
NSP	47	FFC Cable	XDD3138	XDD3139

2.3 AMP SECTION



AMP SECTION parts List

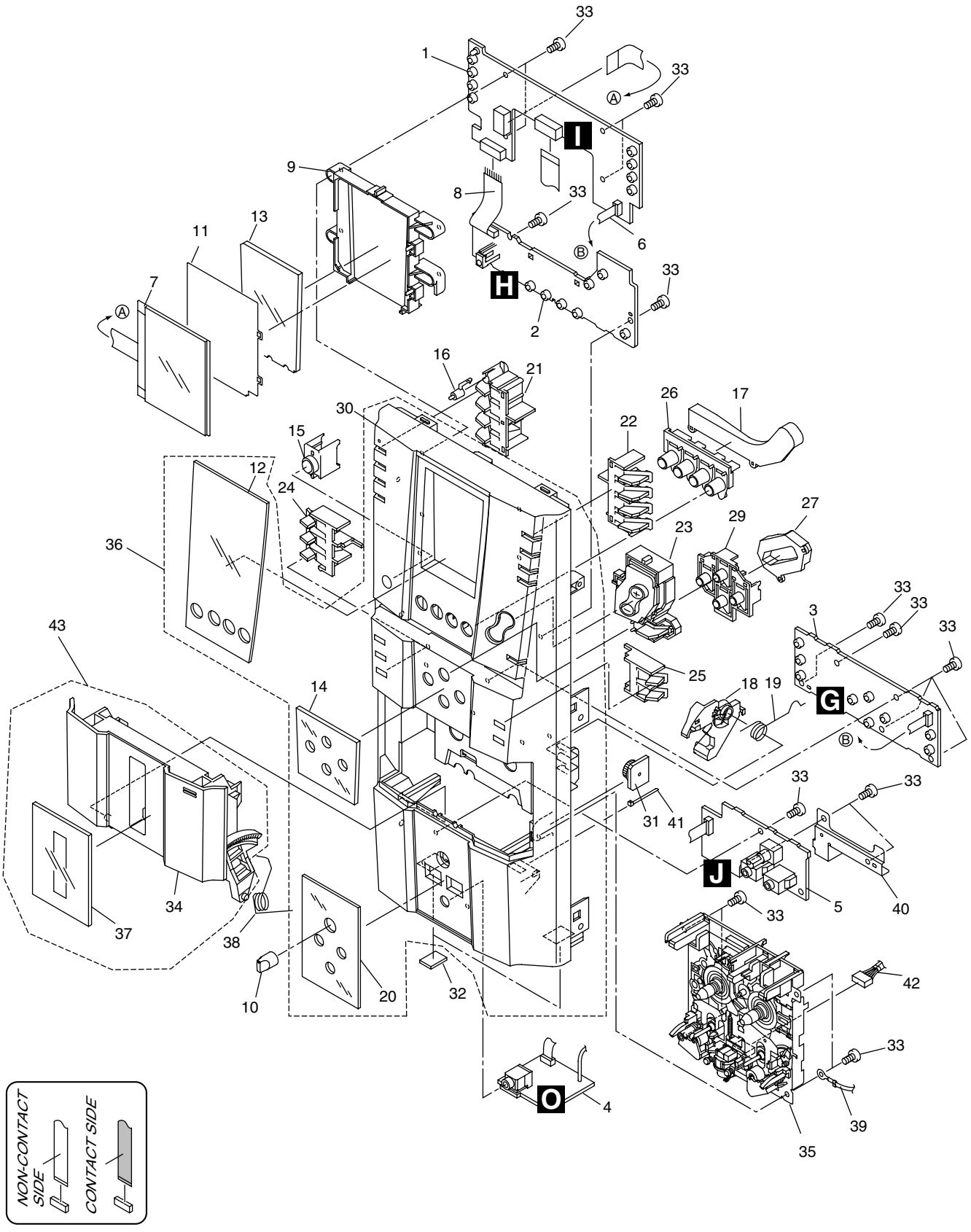
Mark	No.	Description	Part No.
	1	E-VOL Assy	See Contrast table (2)
	2	TRADE Assy	See Contrast table (2)
	3	AMP Assy	See Contrast table (2)
	4	SP-TERMINAL Assy	See Contrast table (2)
	5	SECONDARY Assy	See Contrast table (2)
	6	PRIMARY Assy	XWZ3738
	7	16P F. F. C./30V	XDD3144
	8	13P Jumper Connector	52151-1310
⚠	9	Fuse (FU1 : T5A)	REK1029
⚠	10	Fuse (FU2, FU3 : T2.5A)	See Contrast table (2)
⚠	11	Power Transformer (T1)	See Contrast table (2)
	12	14P Jumper Connector	52151-1410
NSP	13	Chassis	XNA3016
	14	Rear Panel B	See Contrast table (2)
	15	• • • • • • • •	
	16	Module Holder F	XNG3112
	17	4P Jumper Connector	52151-0410
	18	Push Rivet	AEC7120
	19	Leg Cushion	XEB3028
	20	• • • • • • • •	
	21	FAN Barrier	XEC3050
	22	Primary Holder	XMR3084
	23	Push Rivet	XEC3034
	24	• • • • • • • •	
	25	• • • • • • • •	
	26	Binder	ZCA-SKB90BK
	27	Screw	BBZ30P080FZK
	28	Screw	VPZ30P080FZK
	29	Screw	ASZ40P060FMC
	30	FAN Holder	ANG7417
	31	FET Bracket A	ANG7418
	32	Heat Sink	ANH7159
	33	FAN Plate	ANG7462
	34	DC FAN Motor	AXM7025
	35	Screw	BBZ30P140FMC
	36	Screw	BBZ30P300FZK
	37	• • • • • • • •	
	38	Screw	BCZ30P060FMC
	39	Module Holder R	XNG3113
	40	J1 Wire Cable	XDX3065
	41	Speaker Label	See Contrast table (2)

(2) CONTRAST TABLE

XV-EV61/DLXJ/NC and XV-EV31/DLXJ/NC are constructed the same except for the following :

Mark	No	Symbol and Description	XV-EV61 /DLXJ/NC	XV-EV31 /DLXJ/NC
	1	E-VOL Assy	XWZ3736	XWZ3741
	2	TRADE Assy	XWZ3740	XWZ3745
	3	AMP Assy	AWM7720	AWM7787
	4	SP-TERMINAL Assy	XWZ3737	XWZ3742
	5	SECONDARY Assy	XWZ3739	XWZ3743
⚠	10	Fuse (FU2, FU3)	AEK1058 (2.5A/250V)	AEK1059 (3.15A/250V)
⚠	11	Power Transformer (T1)	XTS3070	XTS3071
	14	Rear Panel A	XNC3205	XNC3226
	41	Speaker Label	XAX3401	Not used

2.4 FRONT PANEL SECTION



FRONT PANEL SECTION parts List

Mark	No.	Description	Part No.
	1	DISP 1 Assy	XWZ3727
	2	DISP 2 Assy	XWZ3728
	3	DISP 3 Assy	XWZ3729
	4	H.P Assy	XWZ3731
	5	MIC Assy	See Contrast table (2)
	6	4P Jumper Connector	D20PYY0420E
	7	LCD	XAV3017
	8	8P Jumper Connector	D20PYY0805E
	9	LCD Holder	XMR3074
	10	MIC Knob	XAA3024
	11	Diffusion Sheet	XAK3400
NSP	12	Display Window	XAK3392
	13	LCD LT Cond	XAK3399
NSP	14	Grille Panel A	See Contrast table (2)
	15	Sensor Cover	XAK3396
	16	Timer Lens	XAK3403
	17	FUNC. LT Cond	XAK3401
	18	Ratch Mold R	XMR3002
	19	Ratch Spring R	ABH7131
NSP	20	Grille Panel B	XAK3395
	21	Display Button L	XAD3165
	22	Display Button R	XAD3166
	23	VOL. Button Assy	XXG3159
	24	Dolby Button L	XAD3167
	25	Dolby Button R	XAD3168
	26	FUNC. Button	XAD3169
	27	Play LT Cond	XAK3402
	28	• • • •	
	29	Play Button	XAD3171
NSP	30	Front Panel	See Contrast table (2)
	31	Damper Assy	AXA7052
	32	Leg Cushion	XEB3028
	33	Screw	VPZ30P080FZK
NSP	34	DECK Door	XAN3052
	35	DECK Mechanism Unit	XYM3016
	36	Front Panel Assy	See Contrast table (2)
NSP	37	DECK Panel	XAK3394
	38	Door Spring R	XBH3002
	39	Earth Led Wire	DE007VEO
	40	GND Plate	XNG3104
	41	Binder	ZCA-SKB90BK
	42	DECK Shield Wire	XDE3062
	43	DECK Door Assy	XZN3136

(2) CONTRAST TABLE

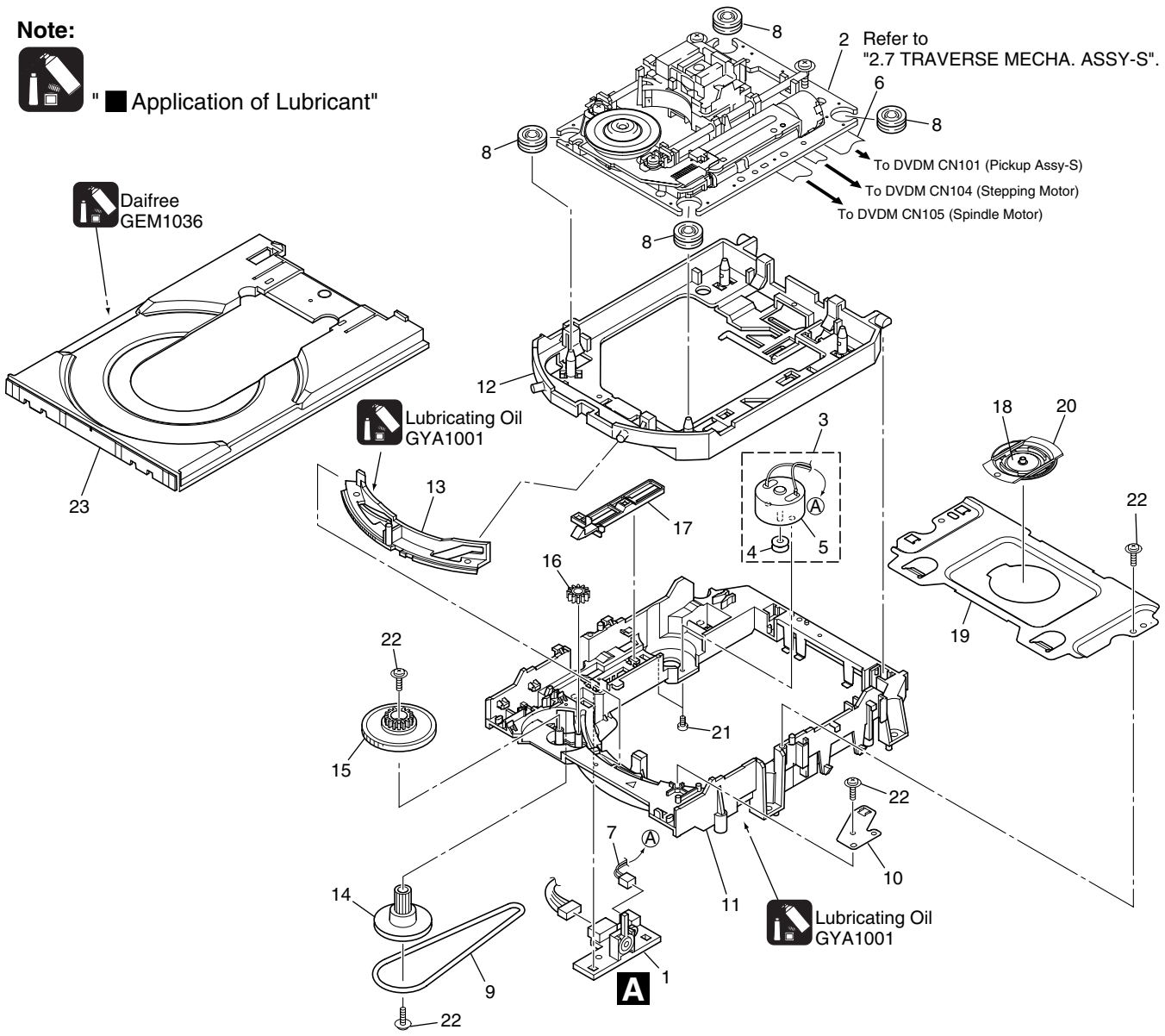
XV-EV61/DLXJ/NC and XV-EV31/DLXJ/NC are constructed the same except for the following :

Mark	No.	Symbol and Description	XV-EV61/DLXJ/NC	XV-EV31/DLXJ/NC
	5	MIC Assy	XWZ3730	XWZ3734
	14	Grille Panel A	XAK3393	XAK3420
NSP	30	Front Panel	XMB3123	XMB3125
	36	Front Panel ASSY	XZN3134	XZN3135

2.5 LOADING MECHANISM ASSY

Note:

" ■ Application of Lubricant"

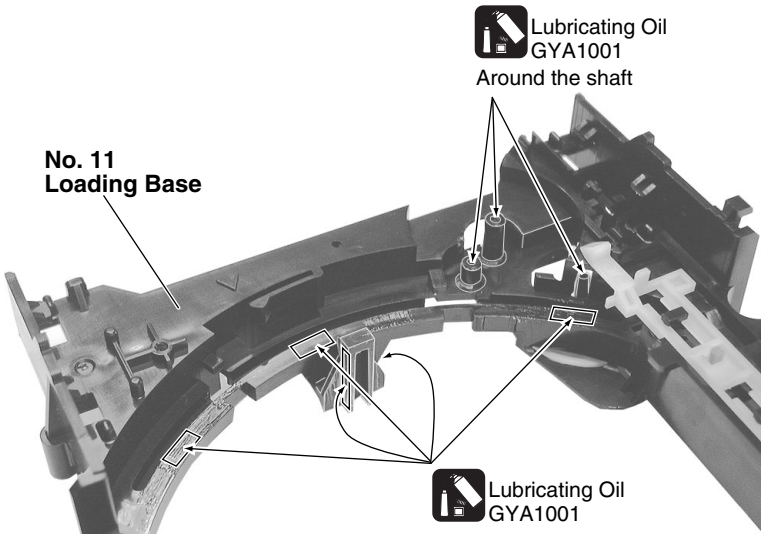


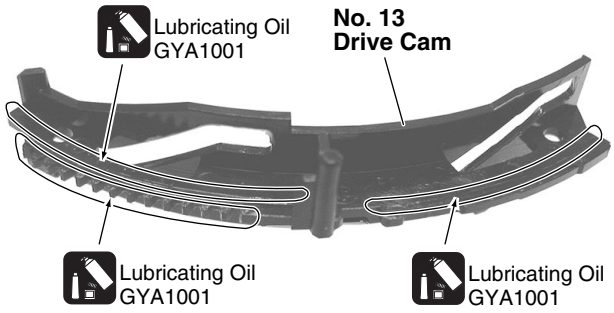
LOADING MECHANISM ASSY parts List

Mark	No.	Description	Part No.
NSP	1	LOAB Assy	VWG2346
	2	Traverse Mechanism Assy-S	VXX2871
	3	Loading Motor Assy	VXX2872
	4	Motor Pulley	PNW1634
	5	Carriage DC Motor / 0.3W	VXM1105
	6	Flexible Cable (26P)	VDA1944
	7	Connector Assy 2P	VKP2286
	8	Float Rubber	VEB1351
	9	Belt	VEB1330
	10	Stabilizer	VNE2253
	11	Loading Base	VNL1917
	12	Float Base DVD	VNL1918
	13	Drive Cam	VNL1919
	14	Gear Pulley	VNL1921
	15	Loading Gear	VNL1922

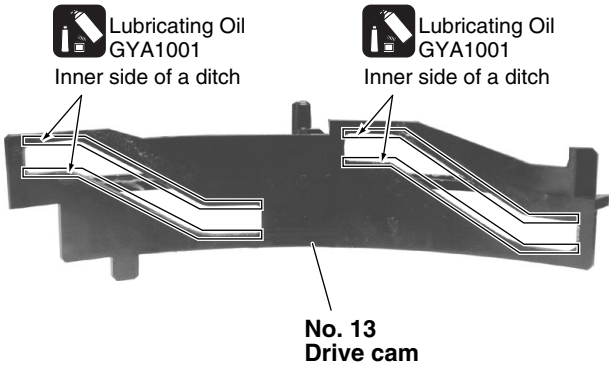
Mark	No.	Description	Part No.
	16	Drive Gear	VNL1923
	17	SW Lever	VNL1925
	18	Clamper Plate	VNE2251
	19	Bridge	VNE2252
	20	Clamper	VNL1924
	21	Screw	JGZ17P028FMC
	22	Screw	Z39-019
	23	Tray	VNL1920

Application of Lubricant

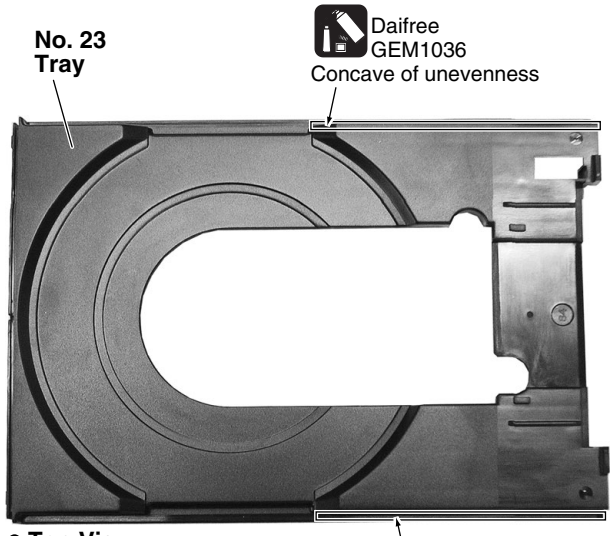




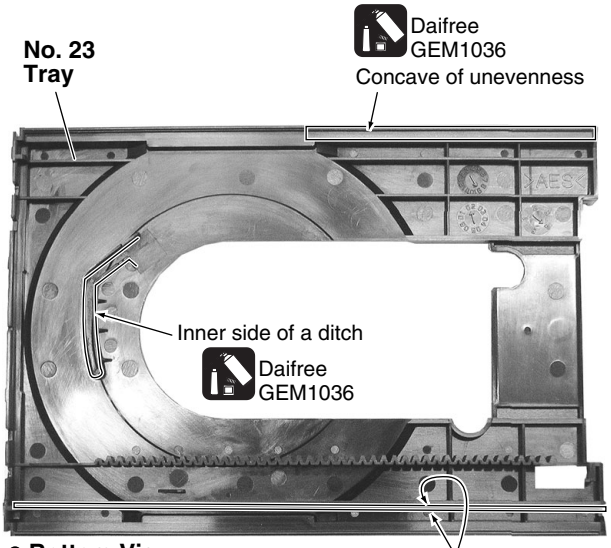
● **Front View**



● **Rear View**

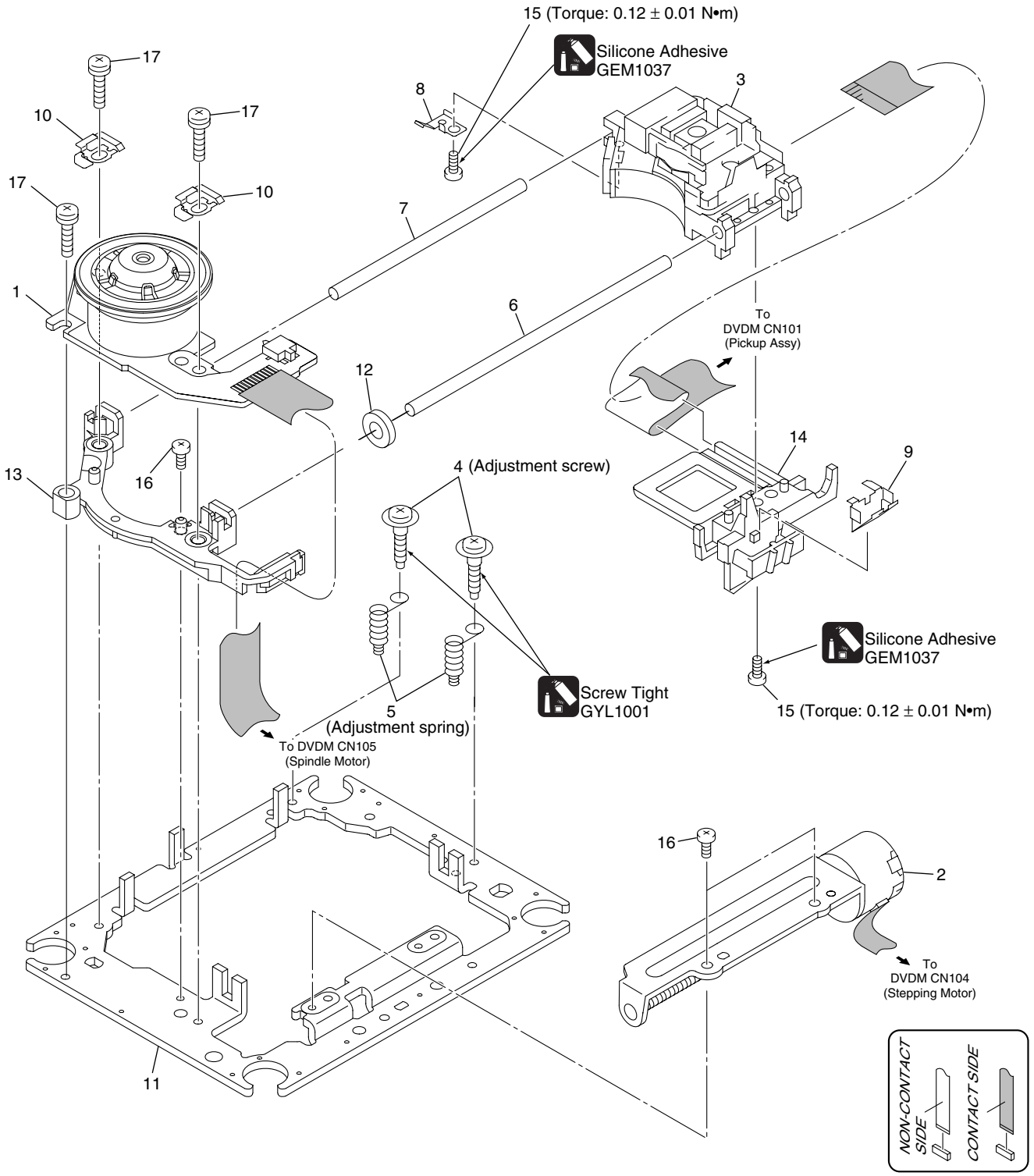


● **Top View**



● **Bottom View**

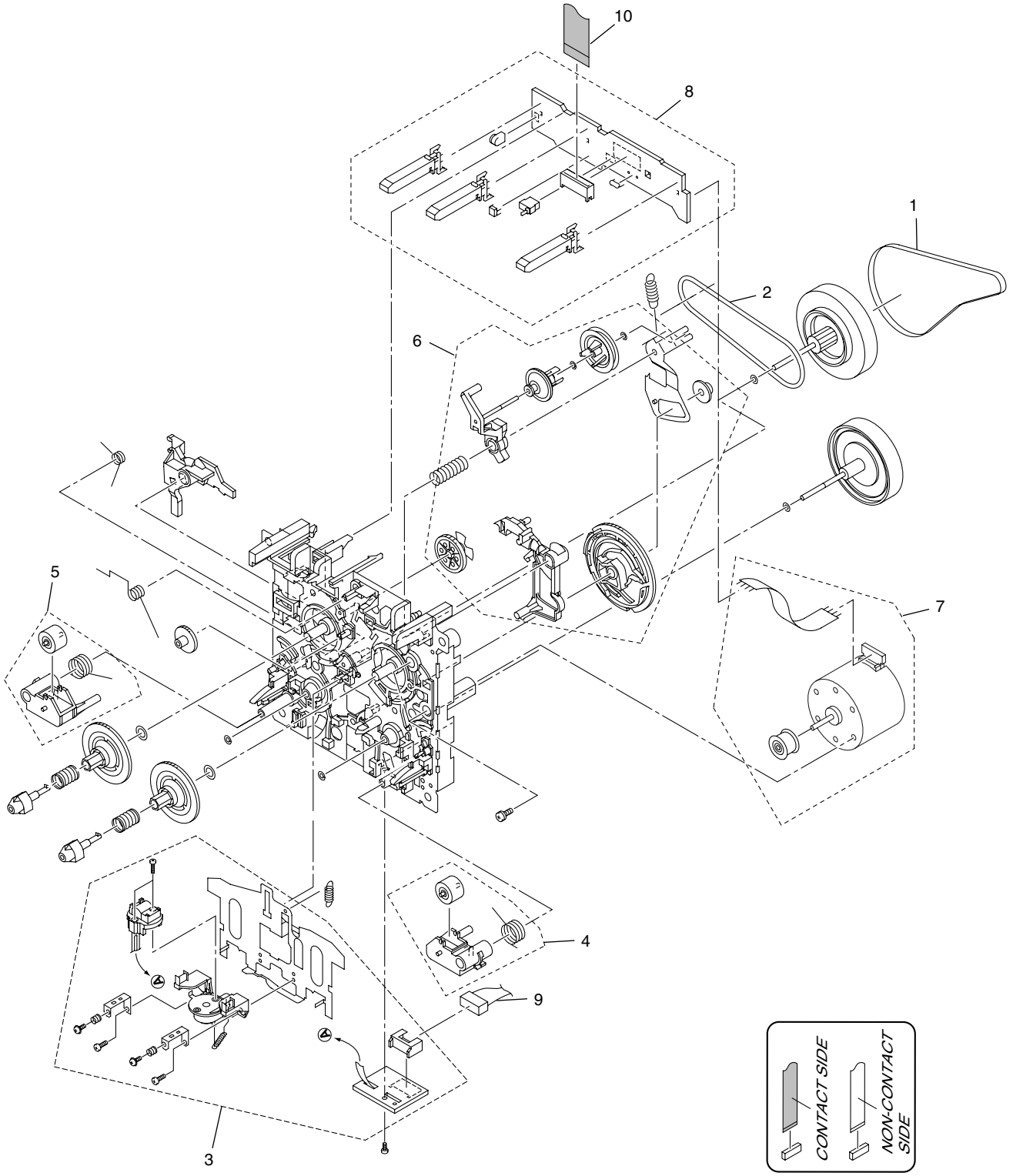
2.6 TRAVERSE MECHANISM ASSY



TRAVERSE MECHANISM ASSY parts List

Mark	No.	Description	Part No.
	1	Spindle Motor	VXM1099
	2	Stepping Motor	VXM1101
⚠	3	Pickup Assy-S	OXX8005
	4	Skew Screw	VBA1080
	5	Skew Spring	VBH1335
	6	Guide Bar	VLL1514
	7	Sub Guide Bar	VLL1515
	8	Leaf Spring	VNC1023
	9	Joint Spring	VNC1019
	10	Support Spring	VNC1020
NSP	11	Mechanism Chassis	VNE2248
	12	Damper Sheet	VEB1335
	13	Spacer	VNL1913
	14	Joint 03	VNL1949
	15	Tapping Screw	OBA8021
	16	Screw	BBZ20P050FZK
	17	Screw	PMA26P100FMC

2.7 DECK MECHANISM ASSY



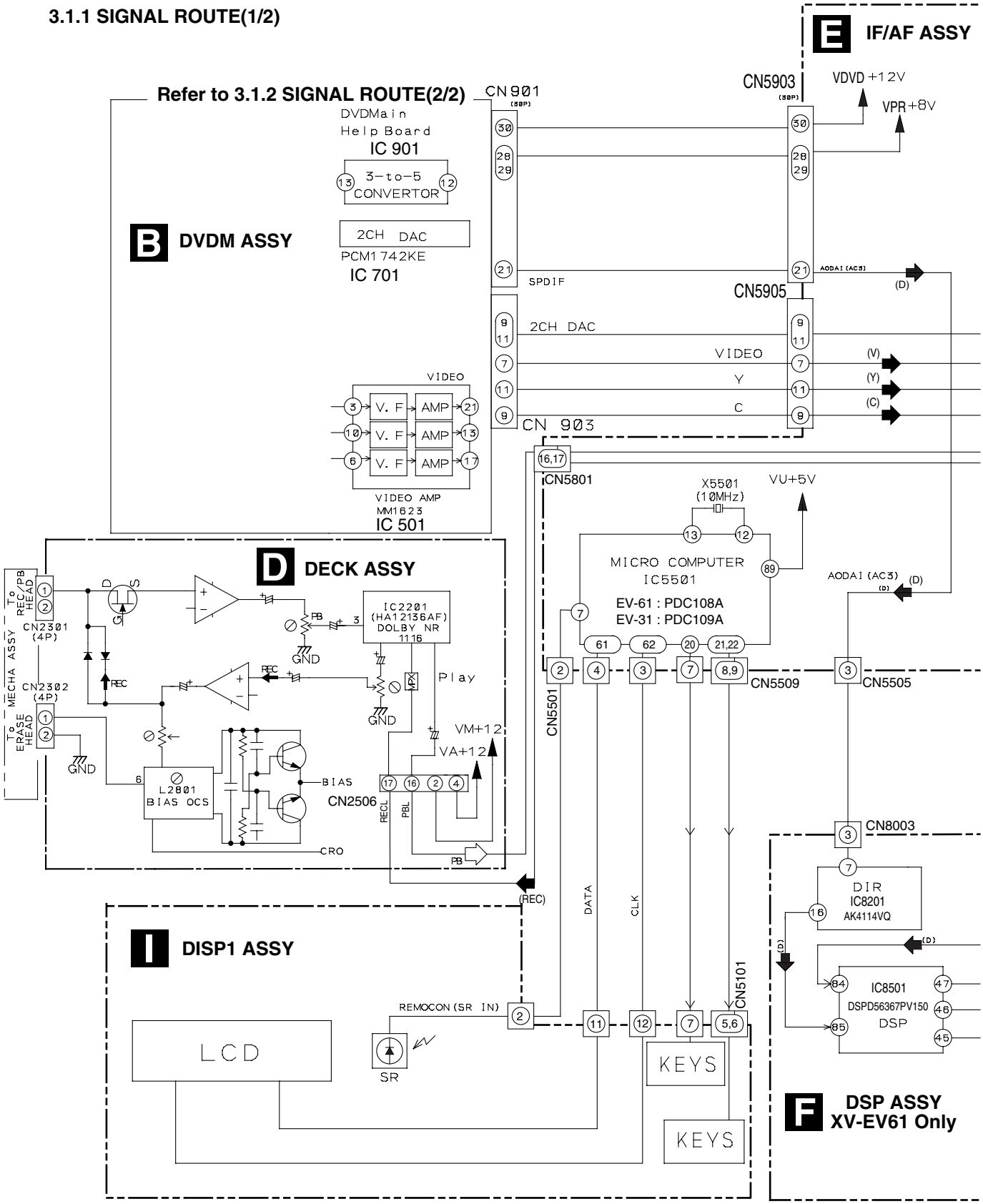
DECK MECHANISM ASSY parts List

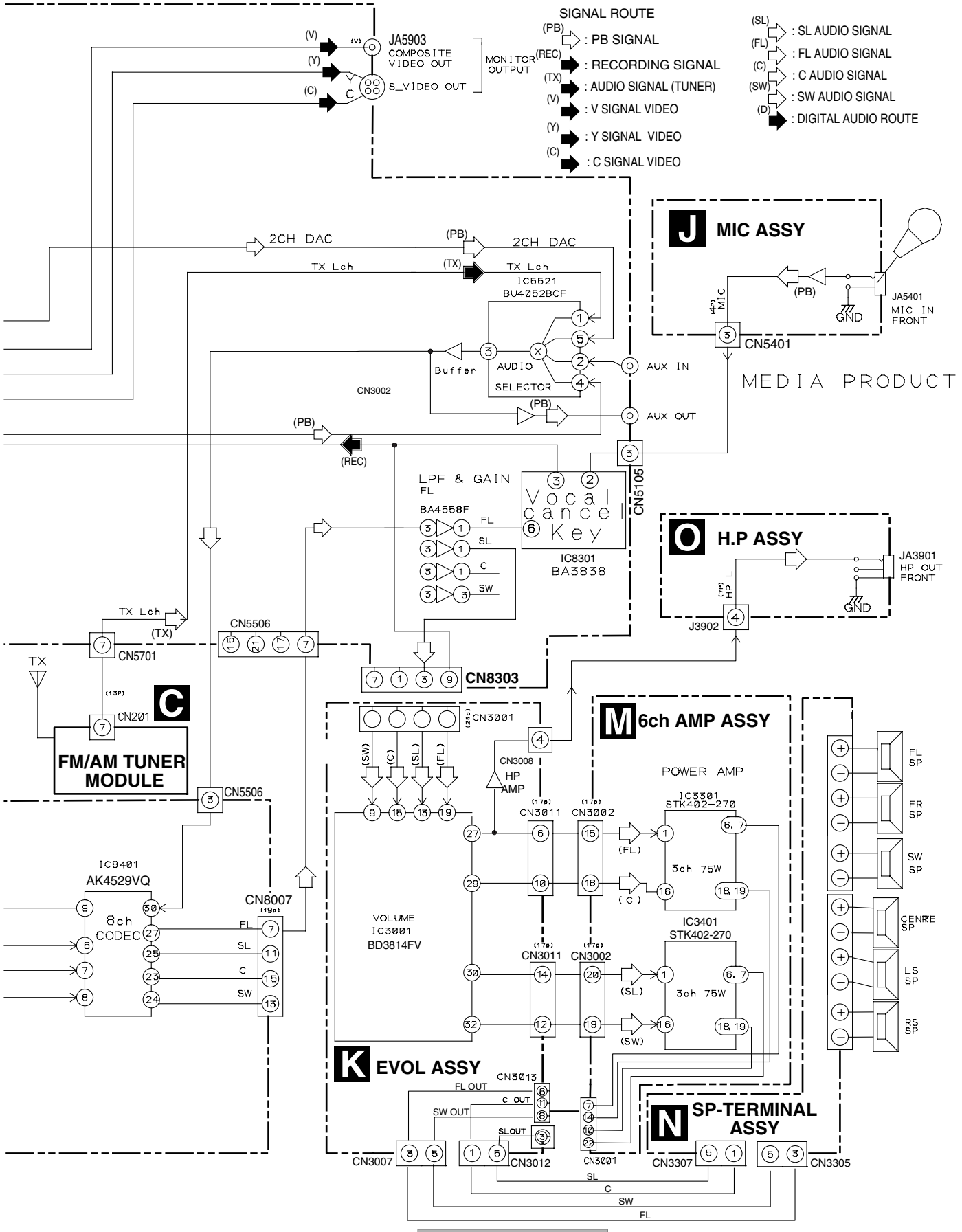
Mark No.	Description	Part No.
1	Main Belt	FF19N-22
2	F/R Belt	FF19S-31
3	Plate HD Blk	F513-847
4	Roller Pinch Blk R	F514-133
5	Roller Pinch Blk L	F514-134
6	Clutch Assy Blk	F522-063
7	Motor Main Blk	F525-334
8	PCB Control Blk	F567-705
9	11P F. F. C / 30V	XDD3142
10	18P F. F. C / 30V	XDD3138

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 OVERALL BLOCK DIAGRAM

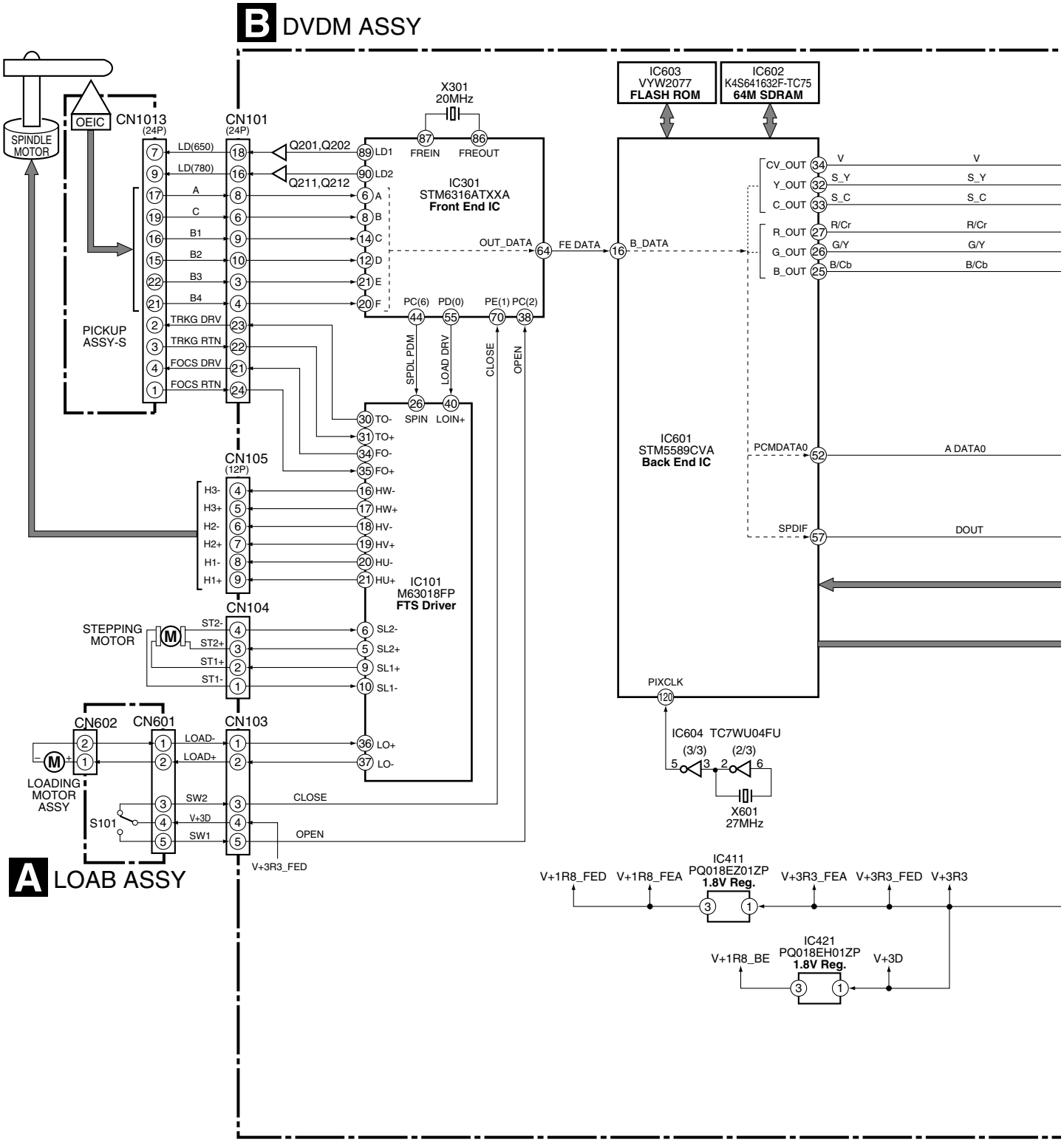
3.1.1 SIGNAL ROUTE(1/2)

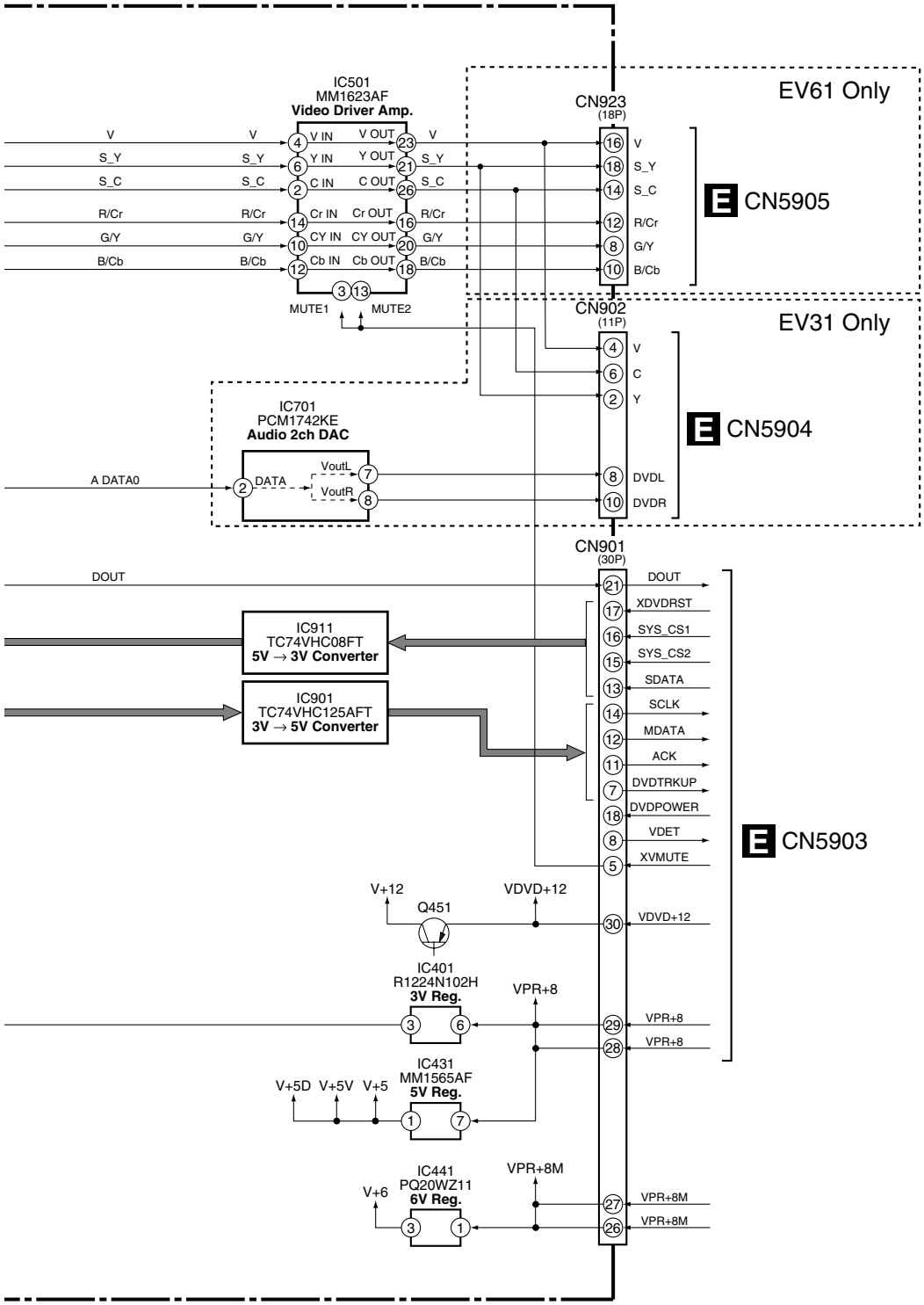



SIGNAL ROUTE
(PB) : PB SIGNAL
(REC) : RECORDING SIGNAL
(TX) : AUDIO SIGNAL (TUNER)
(V) : V SIGNAL VIDEO
(Y) : Y SIGNAL VIDEO
(C) : C SIGNAL VIDEO
(SL) : SL AUDIO SIGNAL
(FL) : FL AUDIO SIGNAL
(C) : C AUDIO SIGNAL
(SW) : SW AUDIO SIGNAL
(D) : DIGITAL AUDIO ROUTE
JA5903
COMPOSITE VIDEO OUT
S_VIDEO OUT
MONITOR OUTPUT
J MIC ASSY
JA5401
MIC IN FRONT
CN5401
2CH DAC
TX Lch
IC5521
BU4052BCF
Buffer
AUDIO SELECTOR
AUX IN
AUX OUT
CN3002
MEDIA PRODUCT
LPF & GAIN
BA4558F
Vocal cancel Key
IC8301
BA3838
CN5105
O H.P ASSY
JA3901
HP OUT FRONT
J3902
CN5506
CN5701
CN8303
C
FM/AM TUNER MODULE
CN201
M 6ch AMP ASSY
CN3001
CN3008
HP AMP
POWER AMP
IC3301
STK402-270
CN3011
CN3002
3ch 75W
IC3401
STK402-270
VOLUME
IC3001
BD3814FV
IC8401
AK4529VQ
8ch CODEC
CN8007
K EVOL ASSY
CN3013
FL OUT
C OUT
SW OUT
SL OUT
CN3007
CN3012
CN3001
N SP-TERMINAL ASSY
CN3307
CN3305
FL SP
FR SP
SW SP
CENTRE SP
LS SP
RS SP

3.2 DVD SECTION BLOCK DIAGRAM

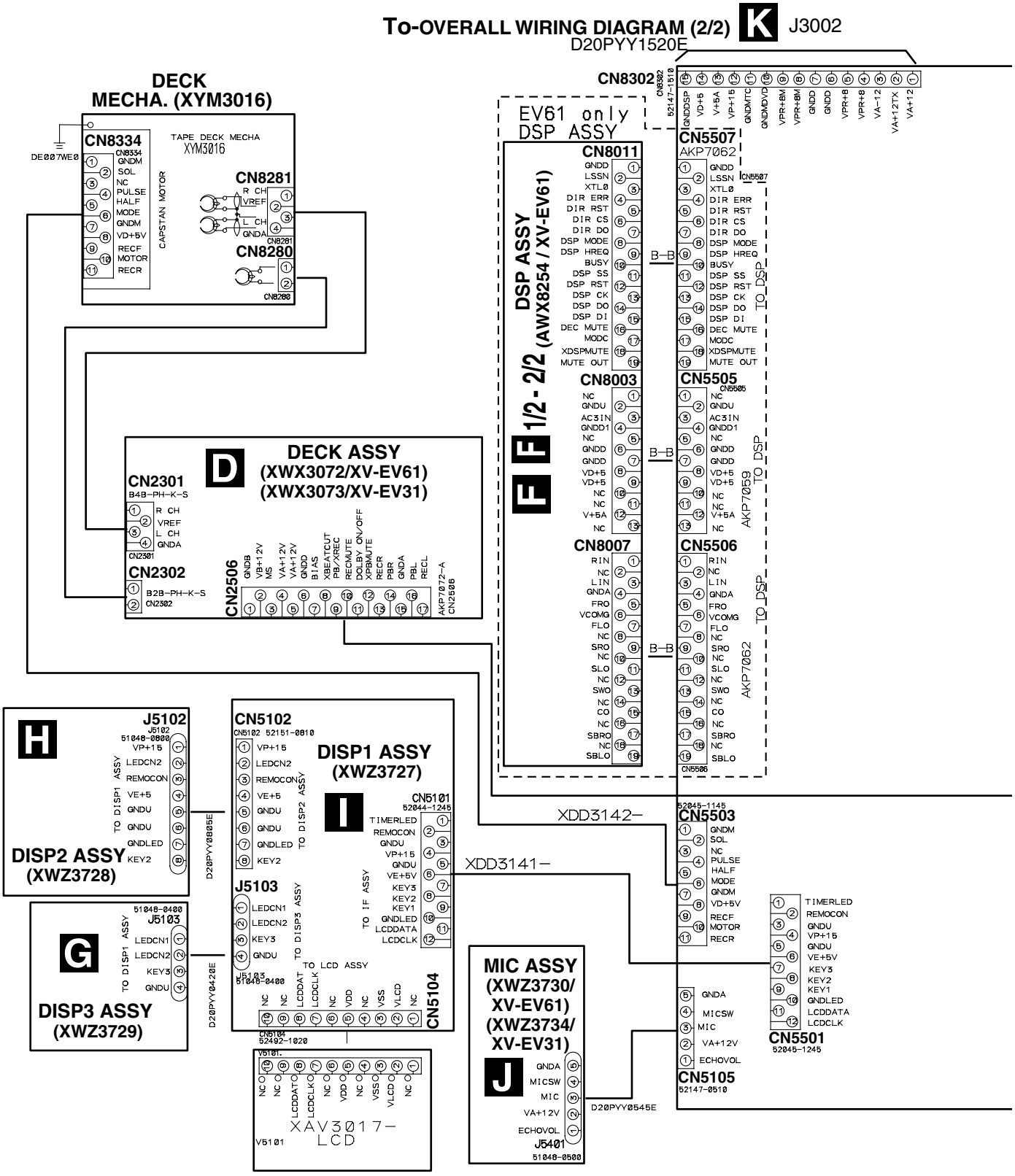
3.1.2 SIGNAL ROUT(2/2)




IC501
MM1623AF
Video Driver Amp.
V IN
V OUT
Y IN
Y OUT
C IN
C OUT
Cr IN
Cr OUT
CY IN
CY OUT
Cb IN
Cb OUT
MUTE1
MUTE2
CN923
(18P)
EV61 Only
CN5905
CN902
(11P)
EV31 Only
CN5904
IC701
PCM1742KE
Audio 2ch DAC
A DATA0
DATA
VoutL
VoutR
DVDL
DVDR
CN901
(30P)
DOUT
IC911
TC74VHC08FT
5V → 3V Converter
IC901
TC74VHC125AFT
3V → 5V Converter
XDVDRST
SYS_CS1
SYS_CS2
SDATA
SCLK
MDATA
ACK
DVDTRKUP
DVDPOWER
VDET
XVMUTE
CN5903
V+12
Q451
VDVD+12
IC401
R1224N102H
3V Reg.
VPR+8
IC431
MM1565AF
5V Reg.
V+5D
V+5V
V+5
IC441
PQ20WZ11
6V Reg.
V+6
VPR+8M

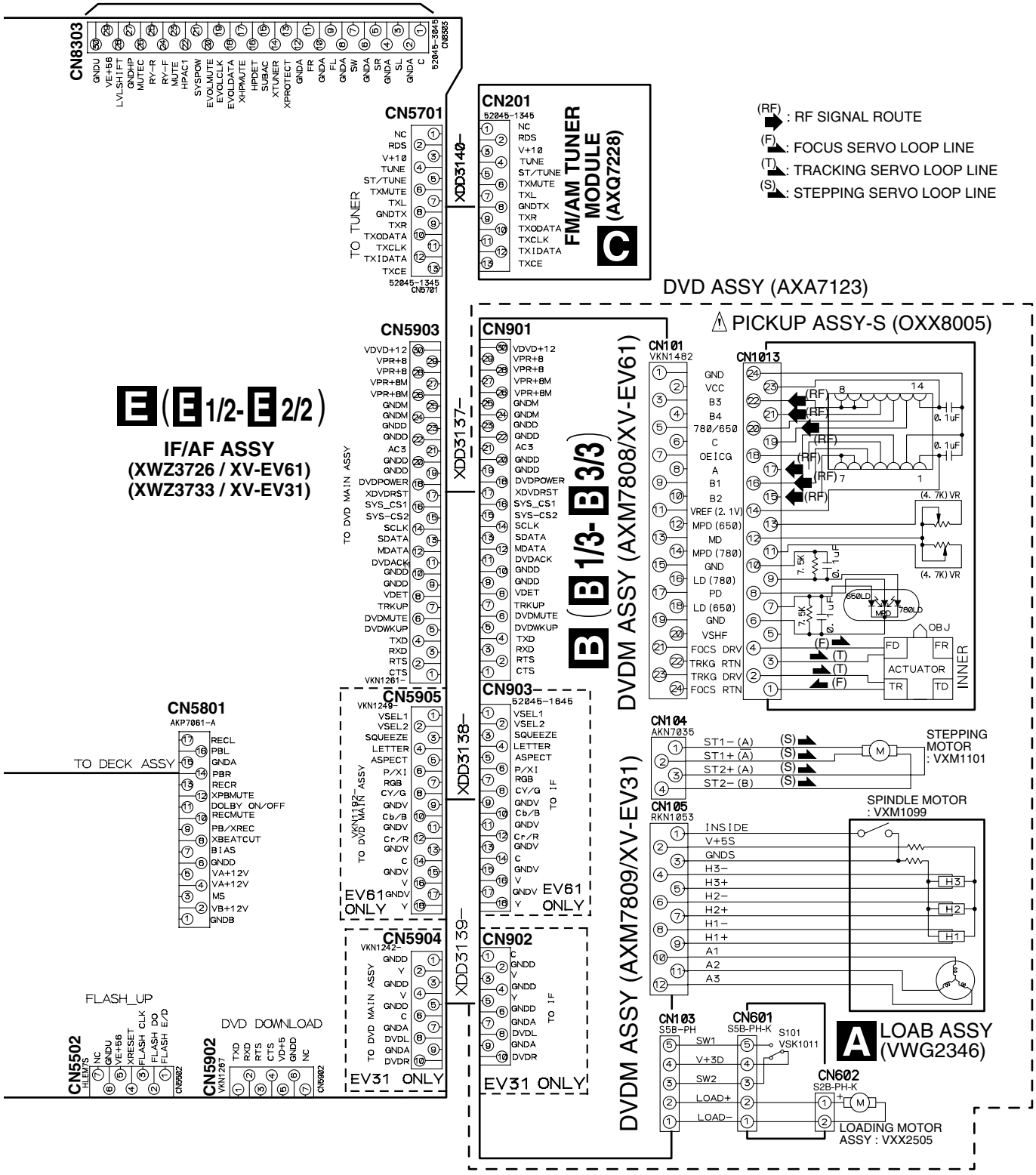
3.3 OVERALL WIRING DIAGAM

3.3.1 OVERALL WIRING DIAGRAM (1/2)

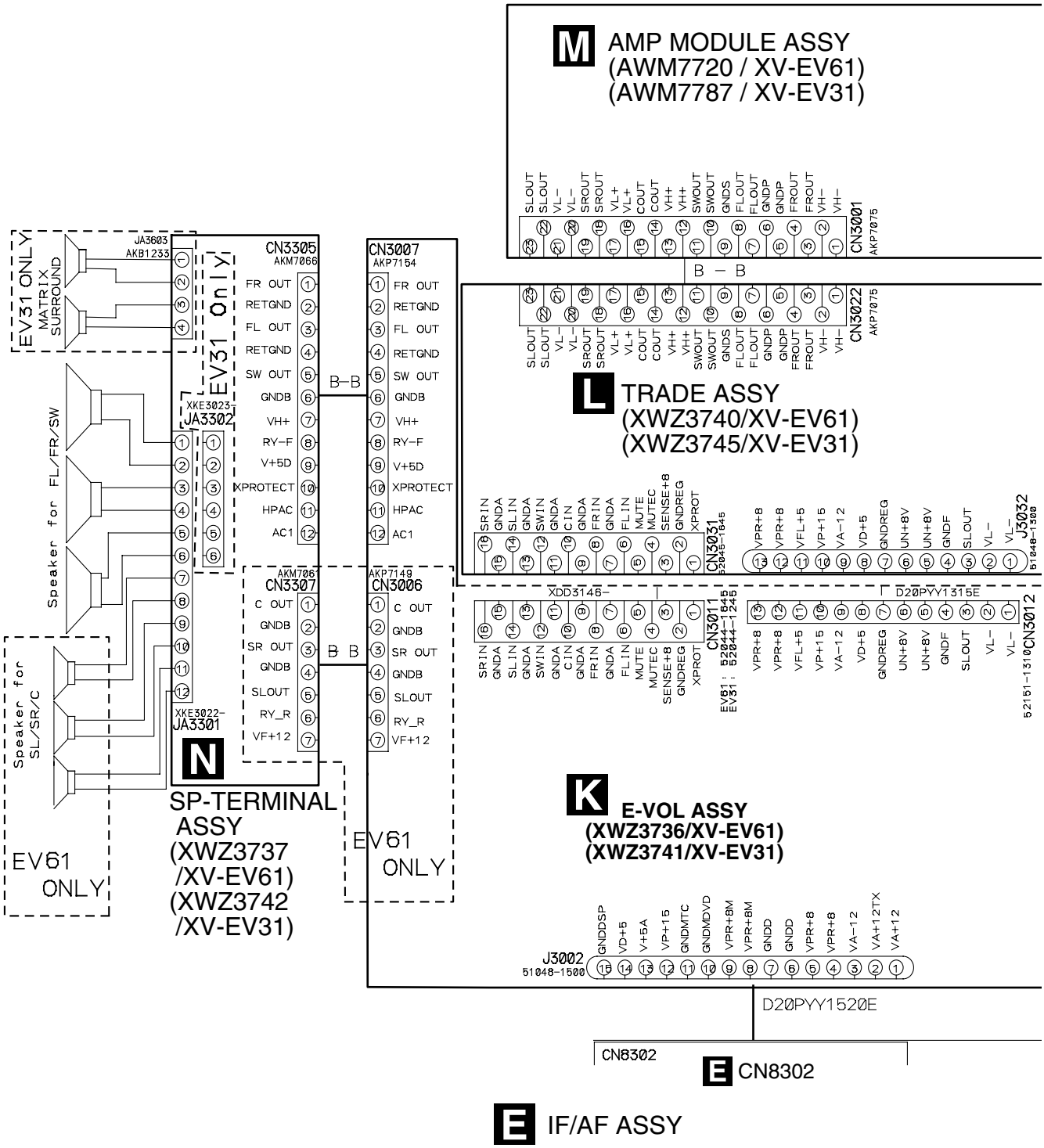


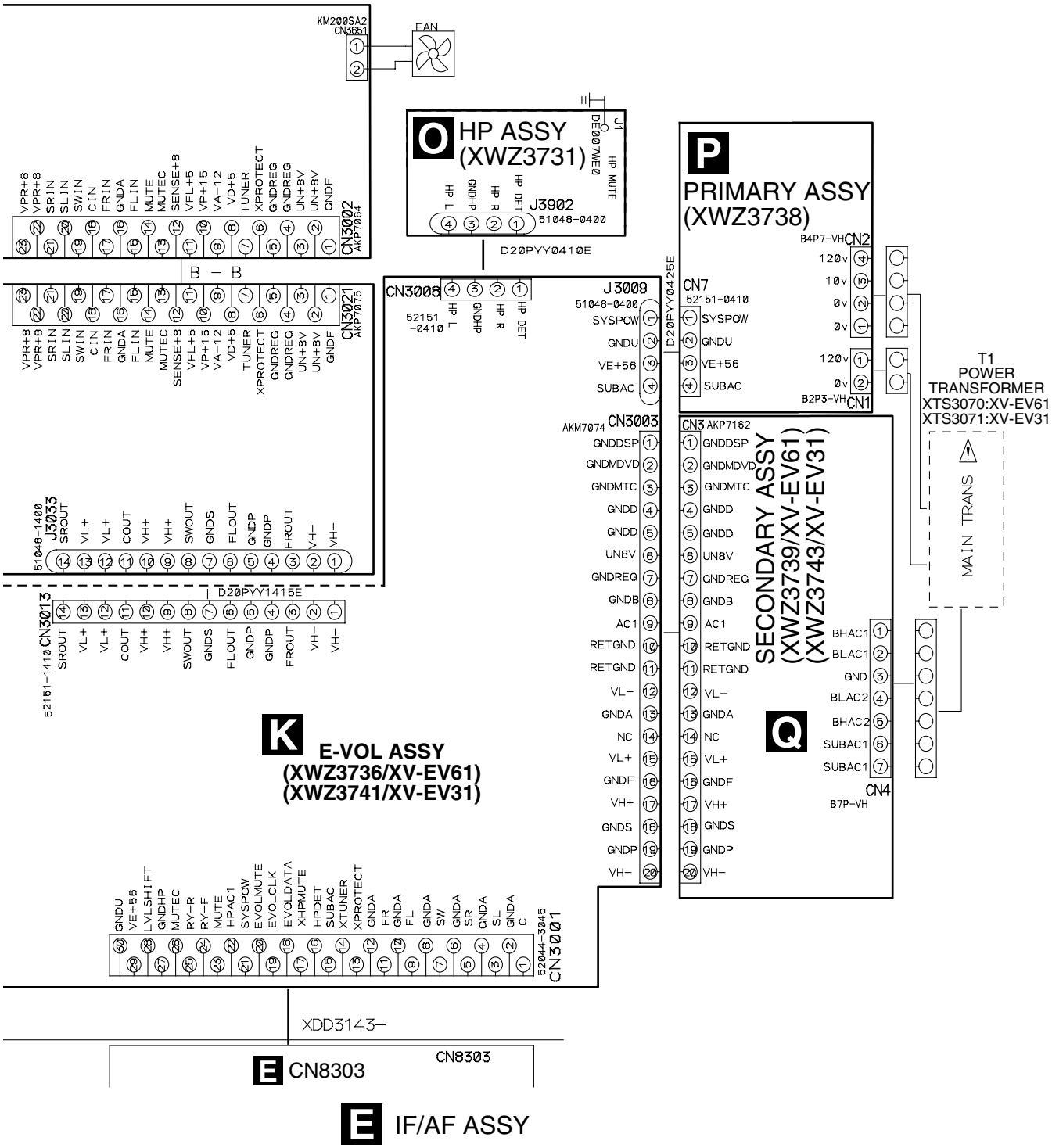
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST"

K CN3001 TO-OVERALL WIRING DIAGRAM (2/2) XDD3143



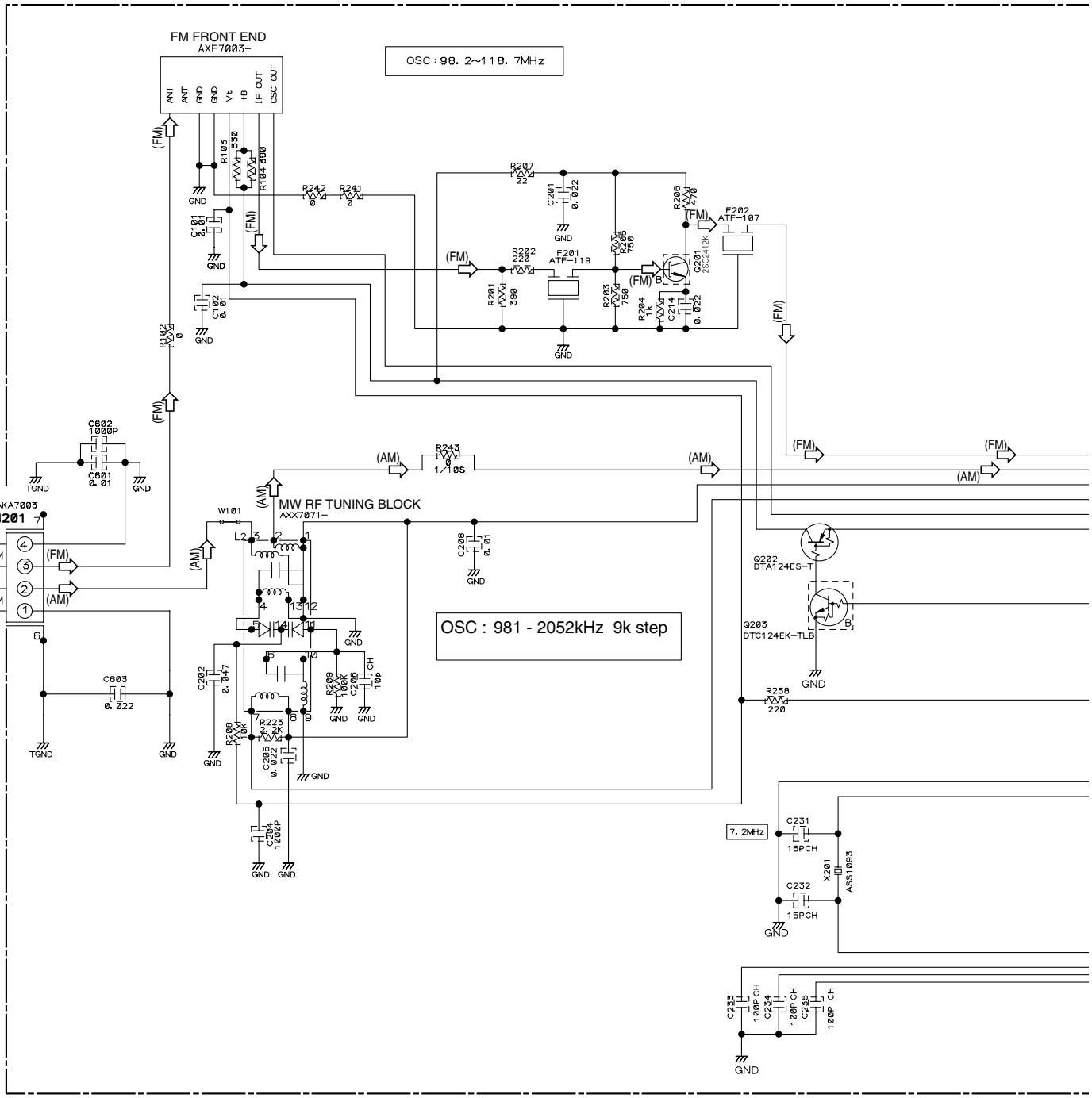
3.3.2 OVERALL WIRING DIAGARAM (2/2)




KM200SA2
CN3651
FAN
O HP ASSY
(XWZ3731)
J3902
51048-0400
D20PWE0020E
J1
HP MUTE
HP L
GNDHP
HP R
HP DET
D20PYY0410E
CN3002
AKP7064
CN3021
AKP7075
B – B
CN3008
52151
-0410
J3009
51048-0400
D20PYY0425E
SYSPOW
GNDU
VE+56
SUBAC
P
PRIMARY ASSY
(XWZ3738)
CN7
52151-0410
B4P7-VH
CN2
120v
10v
0v
0v
B2P3-VH
CN1
120v
0v
T1
POWER
TRANSFORMER
XTS3070:XV-EV61
XTS3071:XV-EV31
MAIN TRANS
AKM7074
CN3003
CN3 AKP7162
SECONDARY ASSY
(XWZ3739/XV-EV61)
(XWZ3743/XV-EV31)
GNDDSP
GNDMDVD
GNDMTC
GNDD
UN8V
GNDREG
GNDB
AC1
RETGND
VL–
GNDA
NC
VL+
GNDF
VH+
GNDS
GNDP
VH–
BHAC1
BLAC1
GND
BLAC2
BHAC2
SUBAC1
SUBAC1
CN4
B7P-VH
Q
51048-1400
J3033
SROUT
VL+
VL+
COUT
VH+
VH+
SWOUT
GNDS
FLOUT
GNDP
GNDP
FROUT
VH–
VH–
D20PYY1415E
52151-1410
CN3013
K E-VOL ASSY
(XWZ3736/XV-EV61)
(XWZ3741/XV-EV31)
GNDU
VE+56
LVLSHIFT
GNDHP
MUTEC
RY–R
RY–F
MUTE
HPAC1
SYSPOW
EVOLMUTE
EVOLCLK
EVOLDATA
XHPMUTE
HPDET
SUBAC
XTUNER
XPROTECT
GNDA
FR
GNDA
FL
GNDA
SW
GNDA
SR
GNDA
SL
GNDA
C
52044-3045
CN3001
XDD3143–
CN8303
E CN8303
E IF/AF ASSY

3.4 FM/AM TUNER MODULE

C FM/AM TUNER MODULE (AXQ7228)

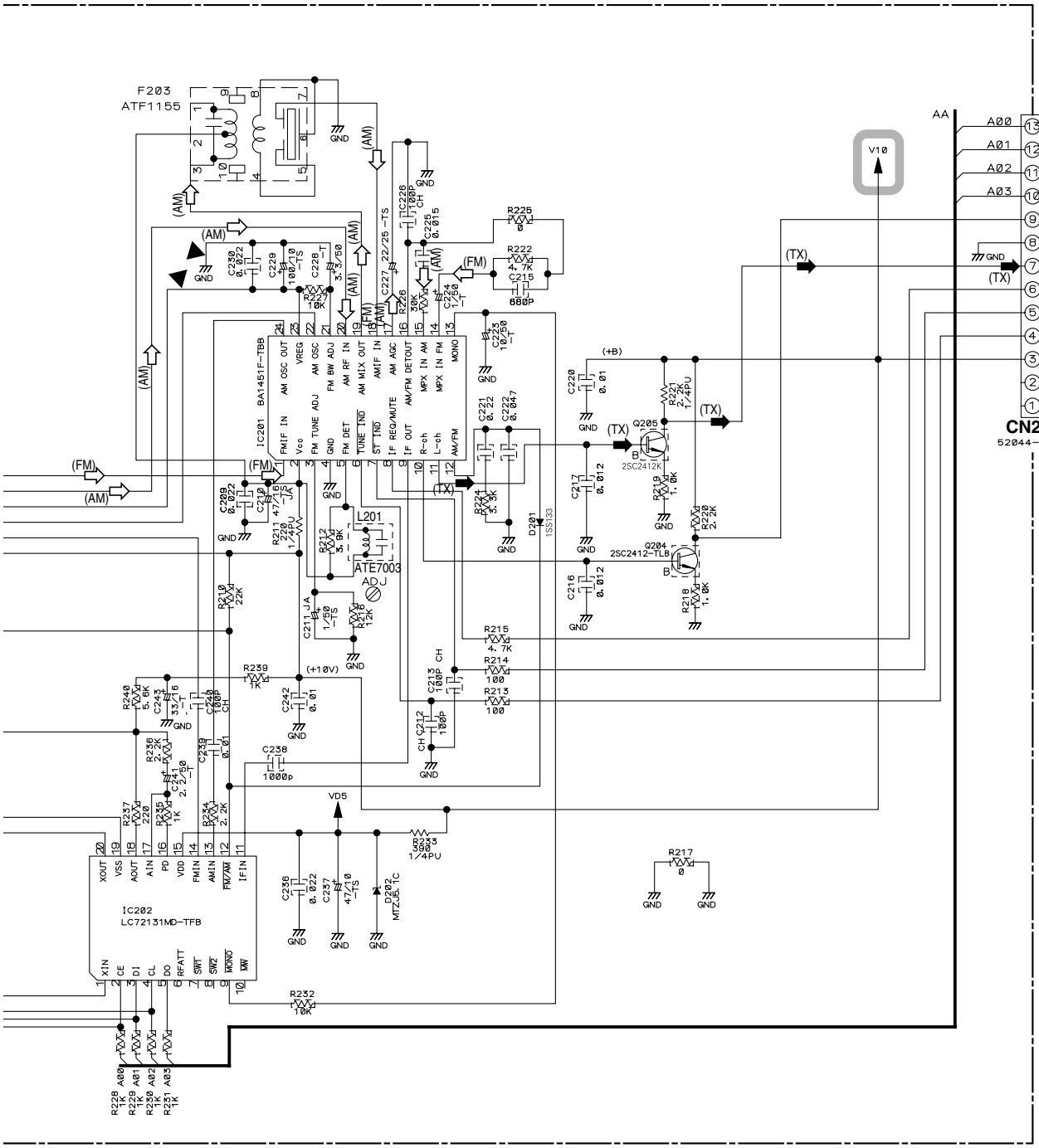


Notes

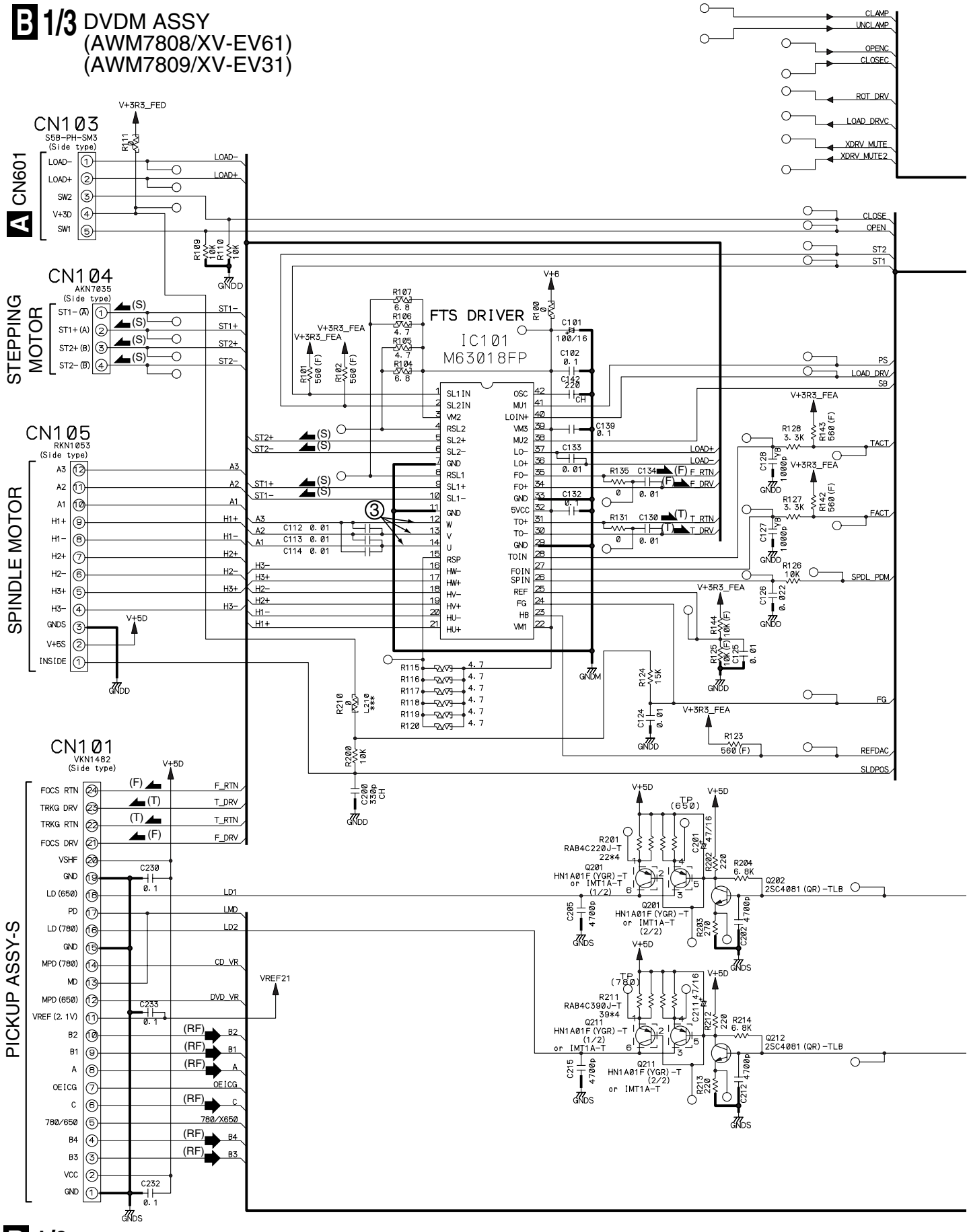
1. RESISTORS
   Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K:KΩ, M:MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P:PF.
3. DIODES
   No mark diode is 1SS133.

: The power supply is shown with the marked box.

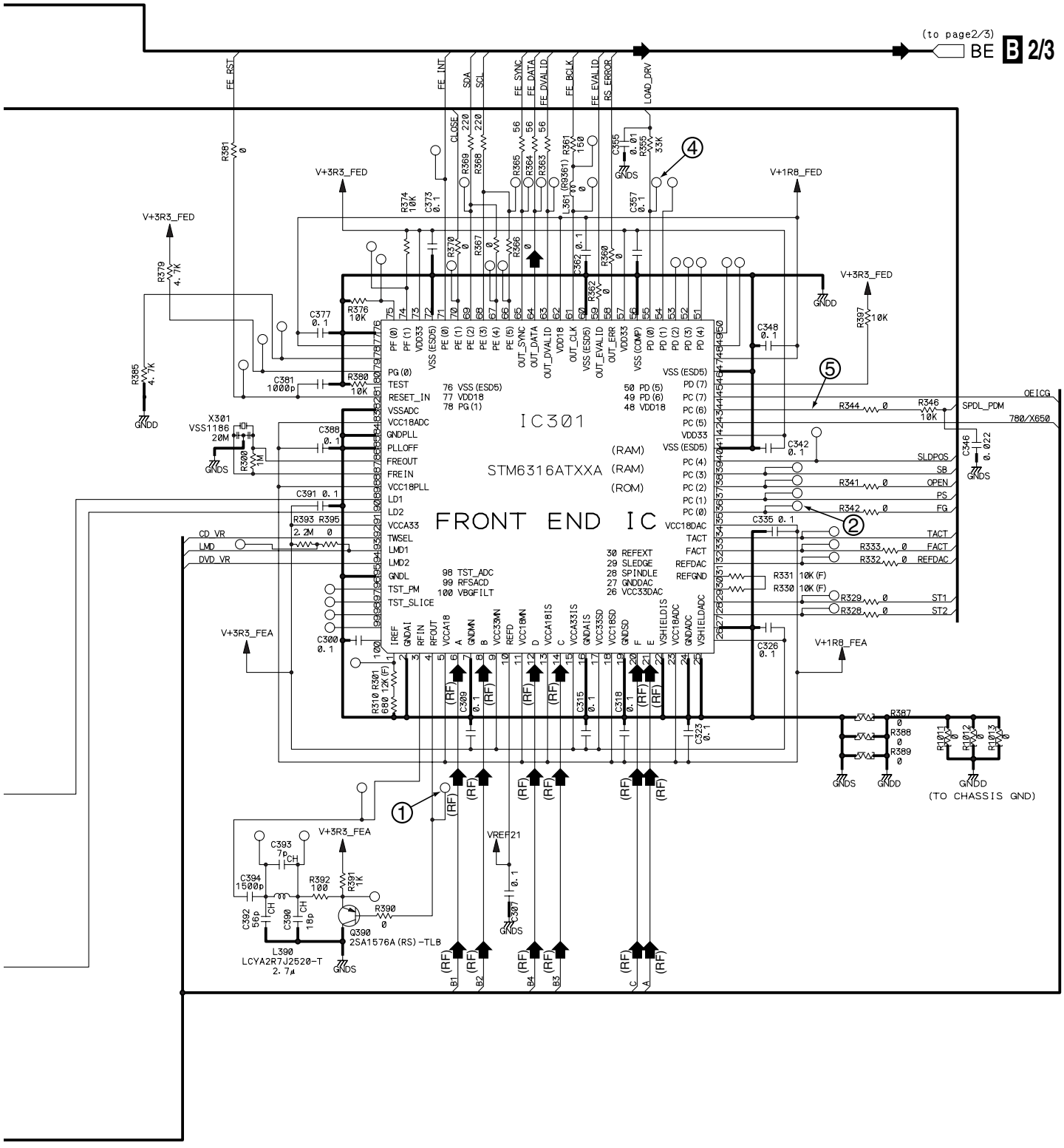
(TX) : AUDIO SIGNAL ROUTE (TUNER)
(AM) : AM SIGNAL ROUTE
(FM) : FM SIGNAL ROUTE



3.5 DVDM ASSY(1/3)



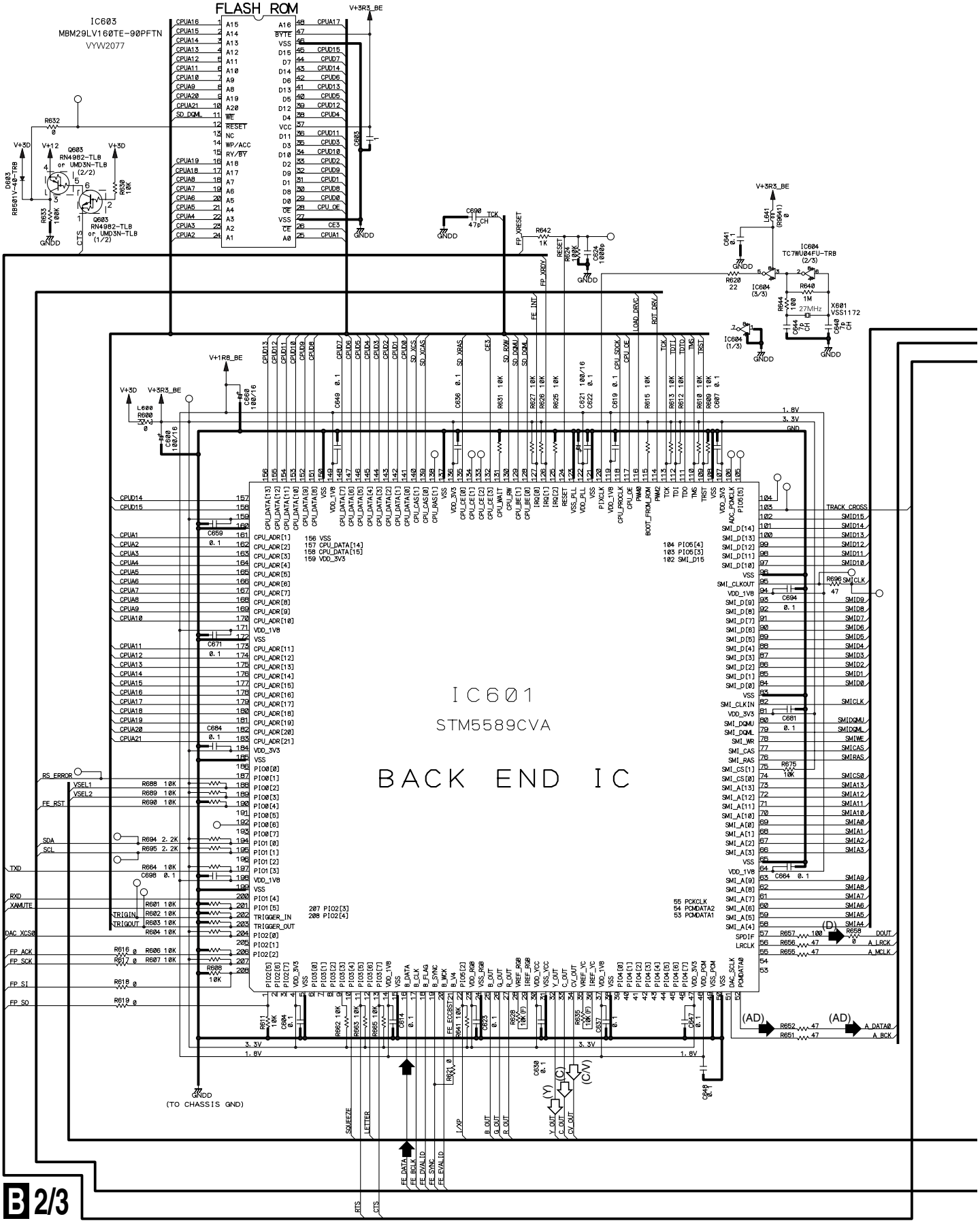
: FE DATA SIGNAL ROUTE
(RF) : RF SIGNAL ROUTE
(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(S) : STEPPING SERVO LOOP LINE

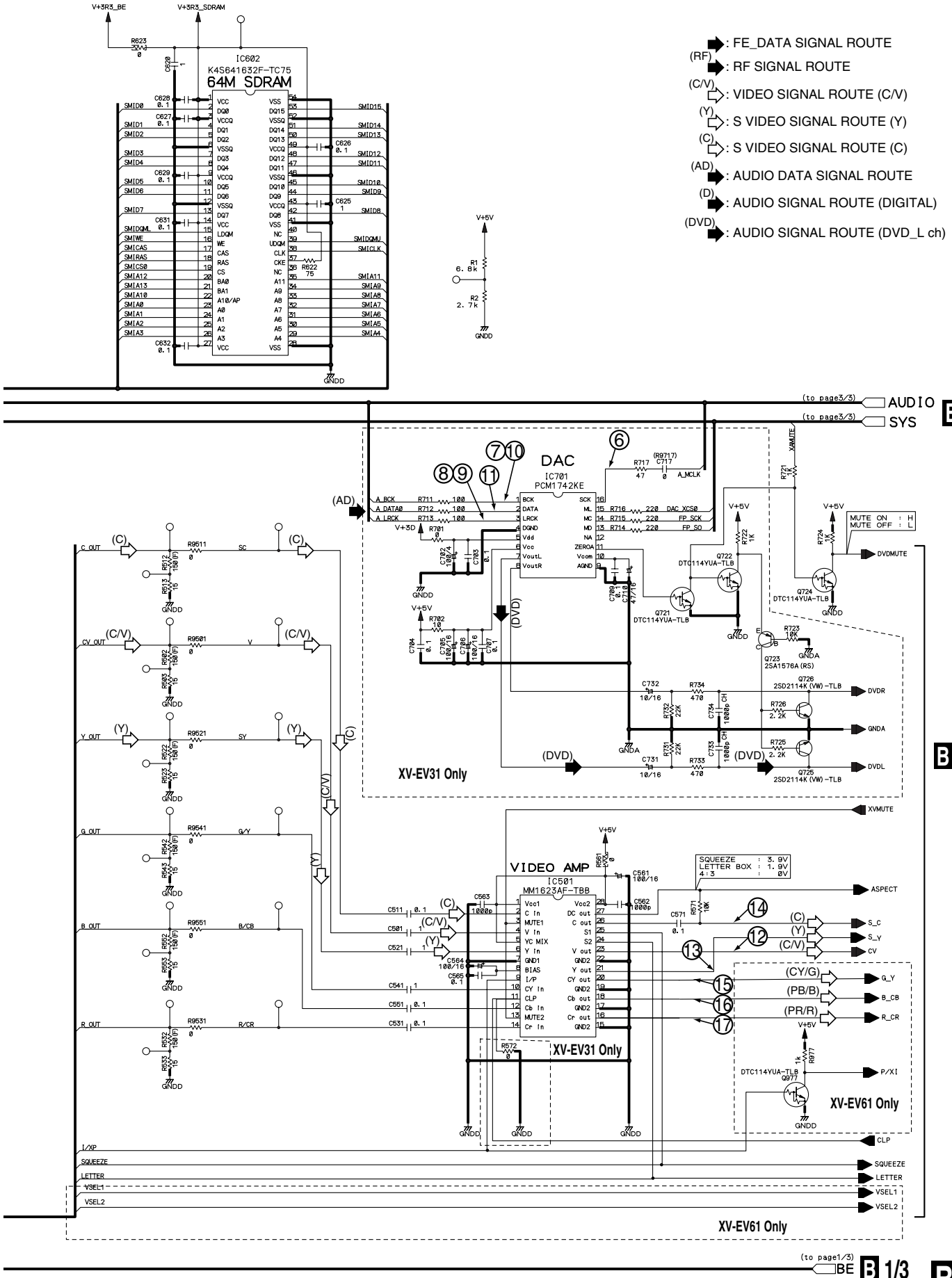


B 1/3

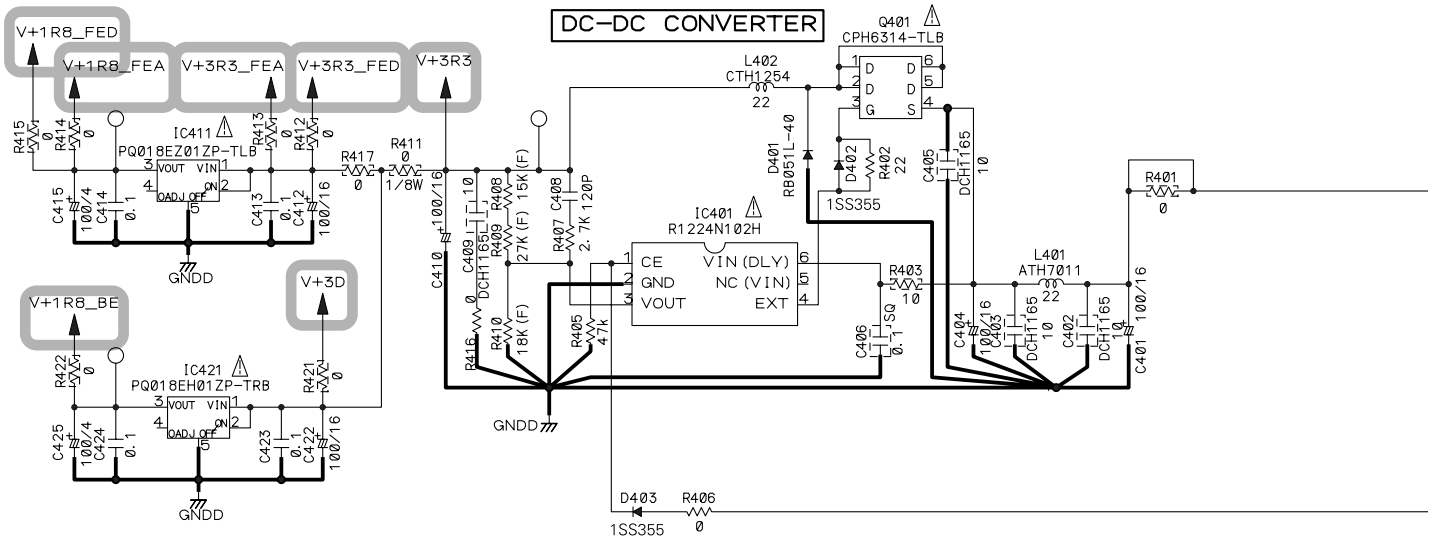
3.6 DVDM ASSY(2/3)

B 2/3 DVDM ASSY (AWM7808/XV-EV61) (AWM7809/XV-EV31)

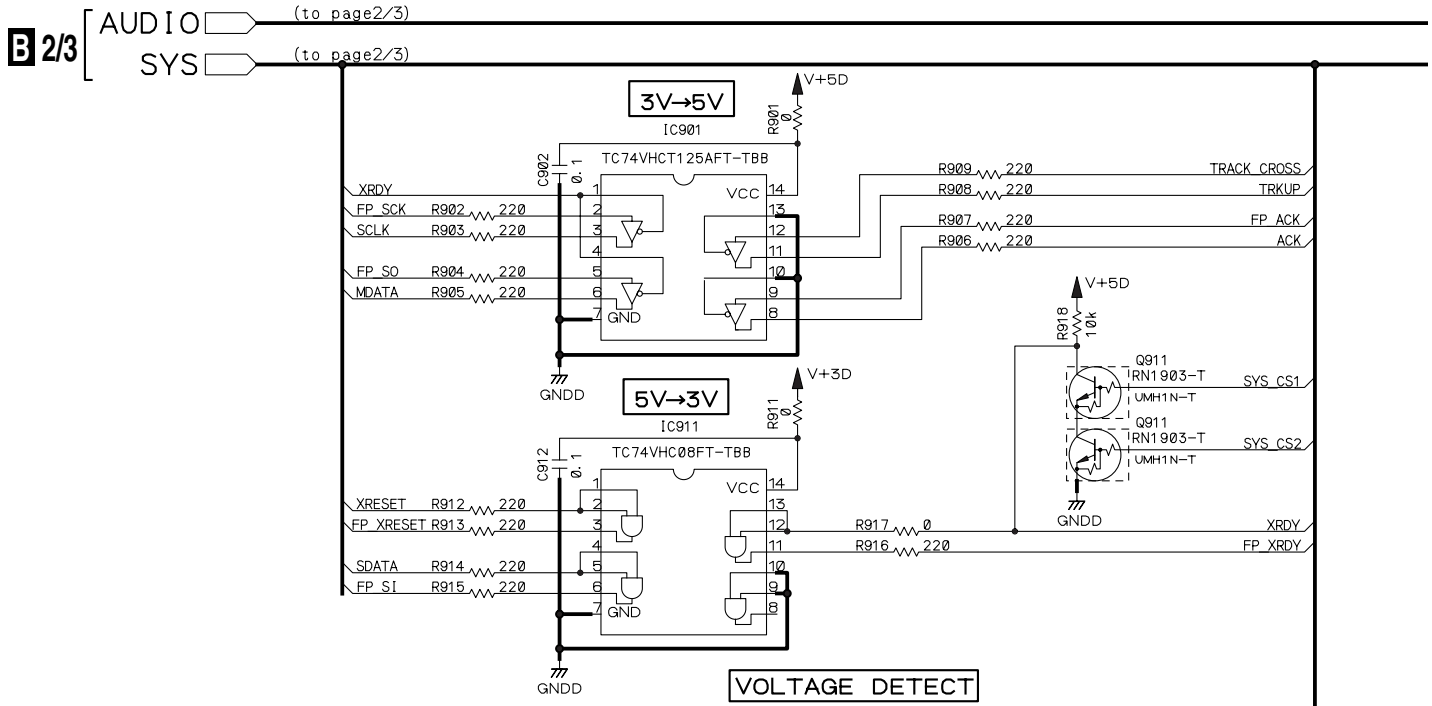


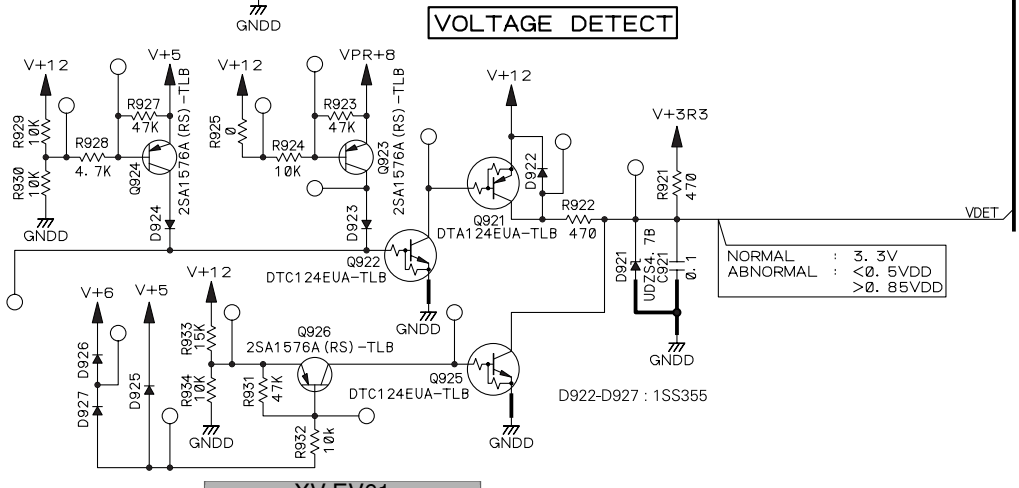

: FE_DATA SIGNAL ROUTE
(RF): RF SIGNAL ROUTE
(C/V): VIDEO SIGNAL ROUTE (C/V)
(Y): S VIDEO SIGNAL ROUTE (Y)
(C): S VIDEO SIGNAL ROUTE (C)
(AD): AUDIO DATA SIGNAL ROUTE
(D): AUDIO SIGNAL ROUTE (DIGITAL)
(DVD): AUDIO SIGNAL ROUTE (DVD_L ch)
IC602
K4S641632F-TC75
64M SDRAM
DAC
IC701
PCM1742KE
VIDEO AMP
IC501
MM1623AF-TBB
XV-EV31 Only
XV-EV61 Only
AUDIO
SYS
BE
B 3/3
B 1/3
B 2/3
MUTE ON : H
MUTE OFF : L
SQUEEZE : 3.9V
LETTER BOX : 1.9V
4:3 : 0V

3.7 DVDM ASSY(3/3)



B 2/3

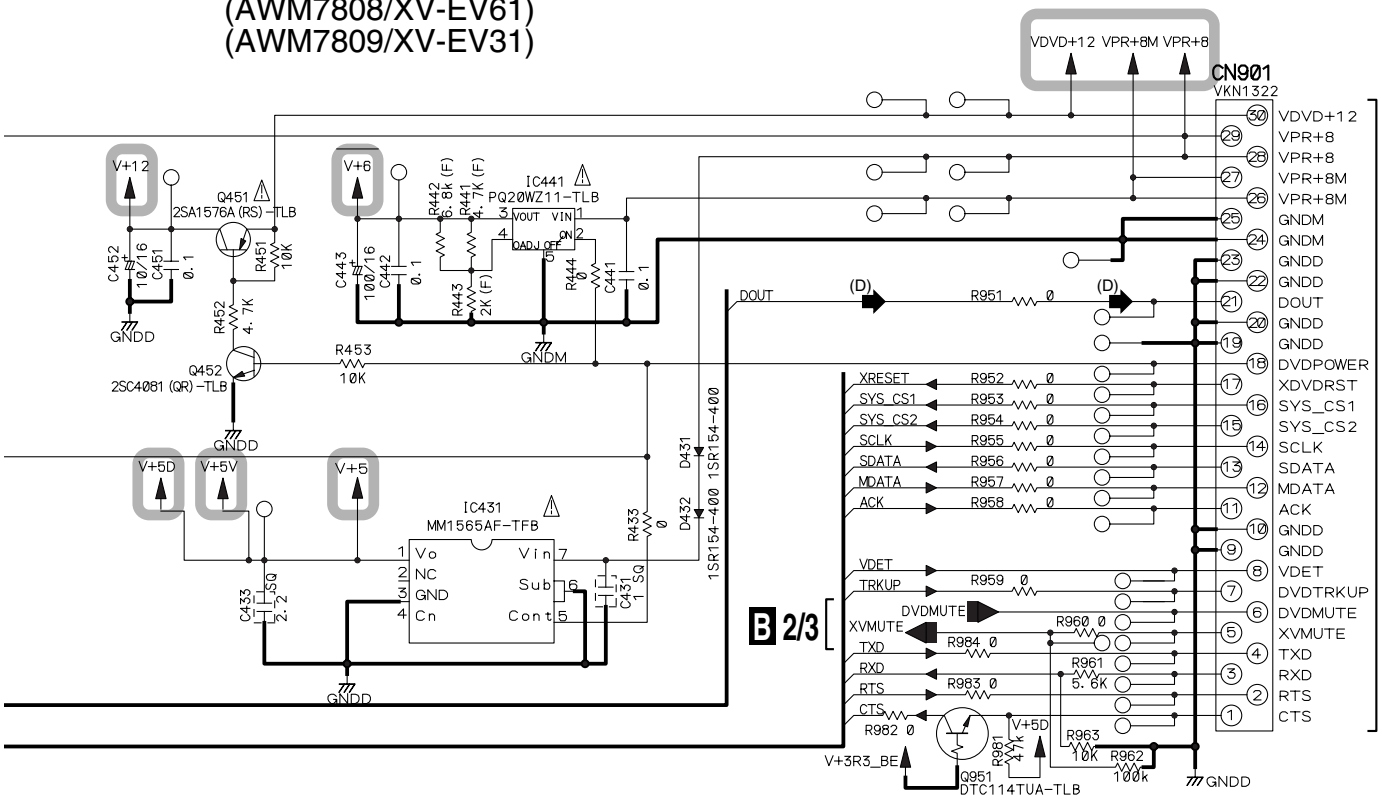




B 3/3

B 3/3 DVDM ASSY (AWM7808/XV-EV61) (AWM7809/XV-EV31)

: The power supply is shown with the marked box.

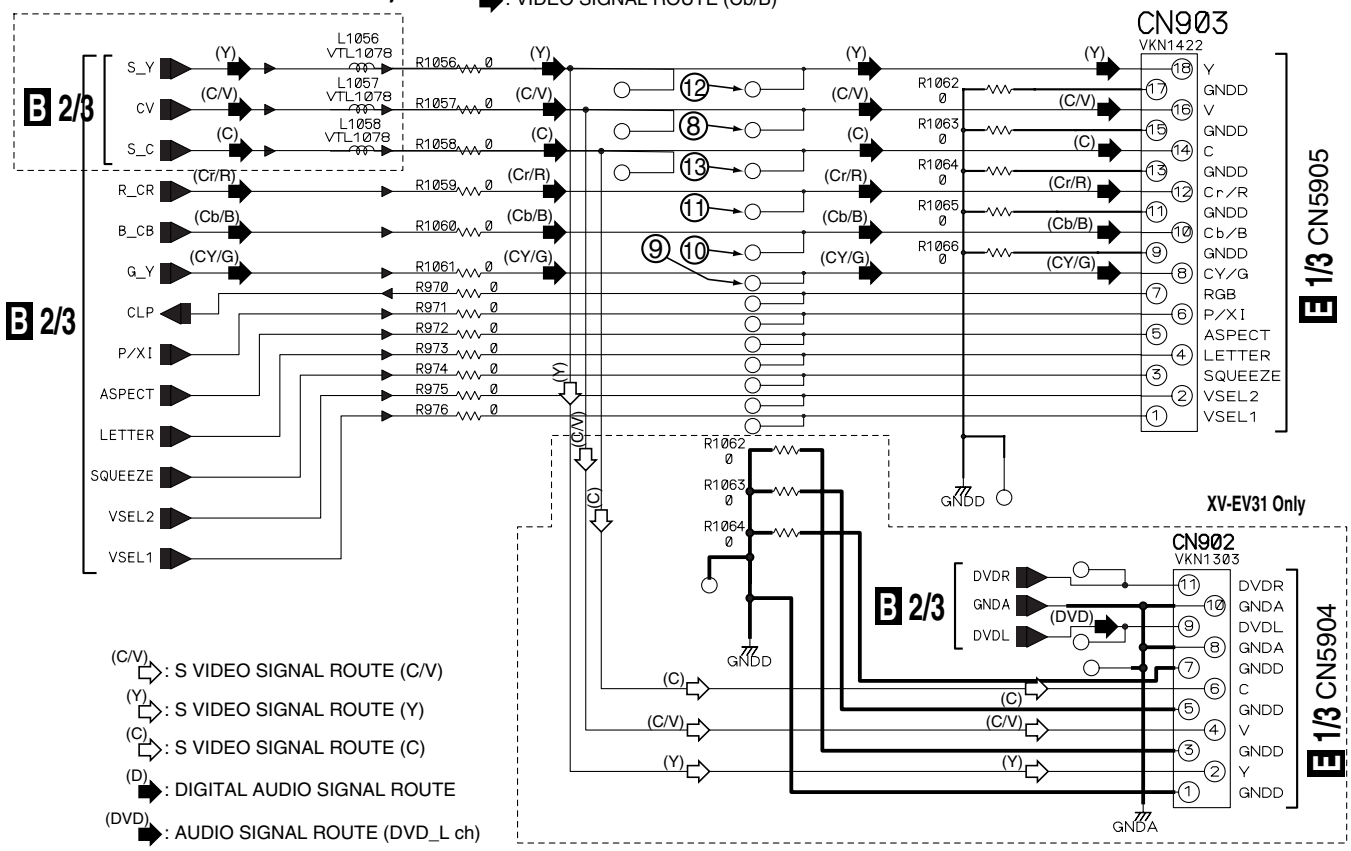


(Cr/R): VIDEO SIGNAL ROUTE (Cr/R)

(CY/G): VIDEO SIGNAL ROUTE (CY/G)

(Cb/B): VIDEO SIGNAL ROUTE (Cb/B)

XV-EV31 Only



(C/V): S VIDEO SIGNAL ROUTE (C/V)

(Y): S VIDEO SIGNAL ROUTE (Y)

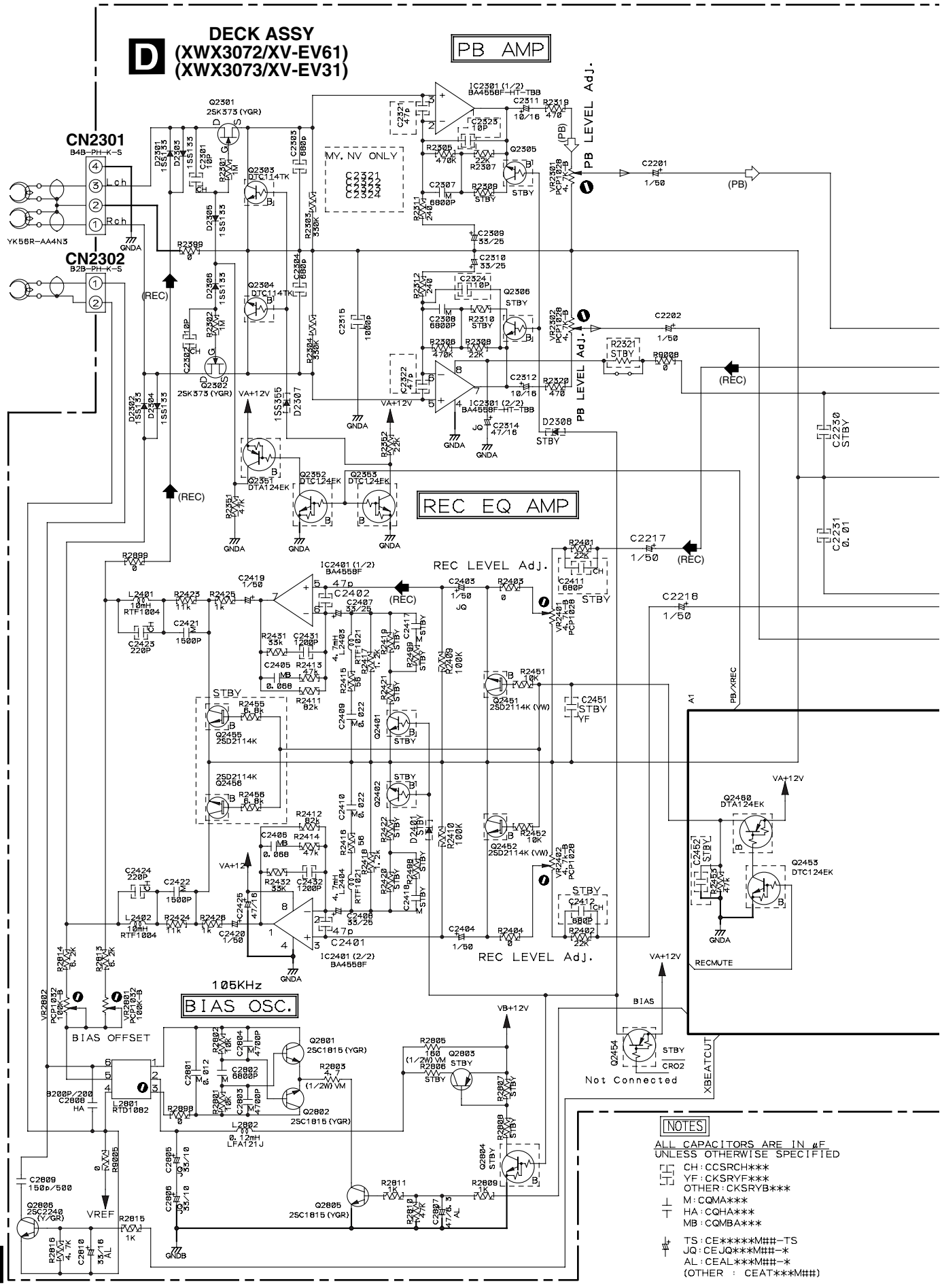
(C): S VIDEO SIGNAL ROUTE (C)

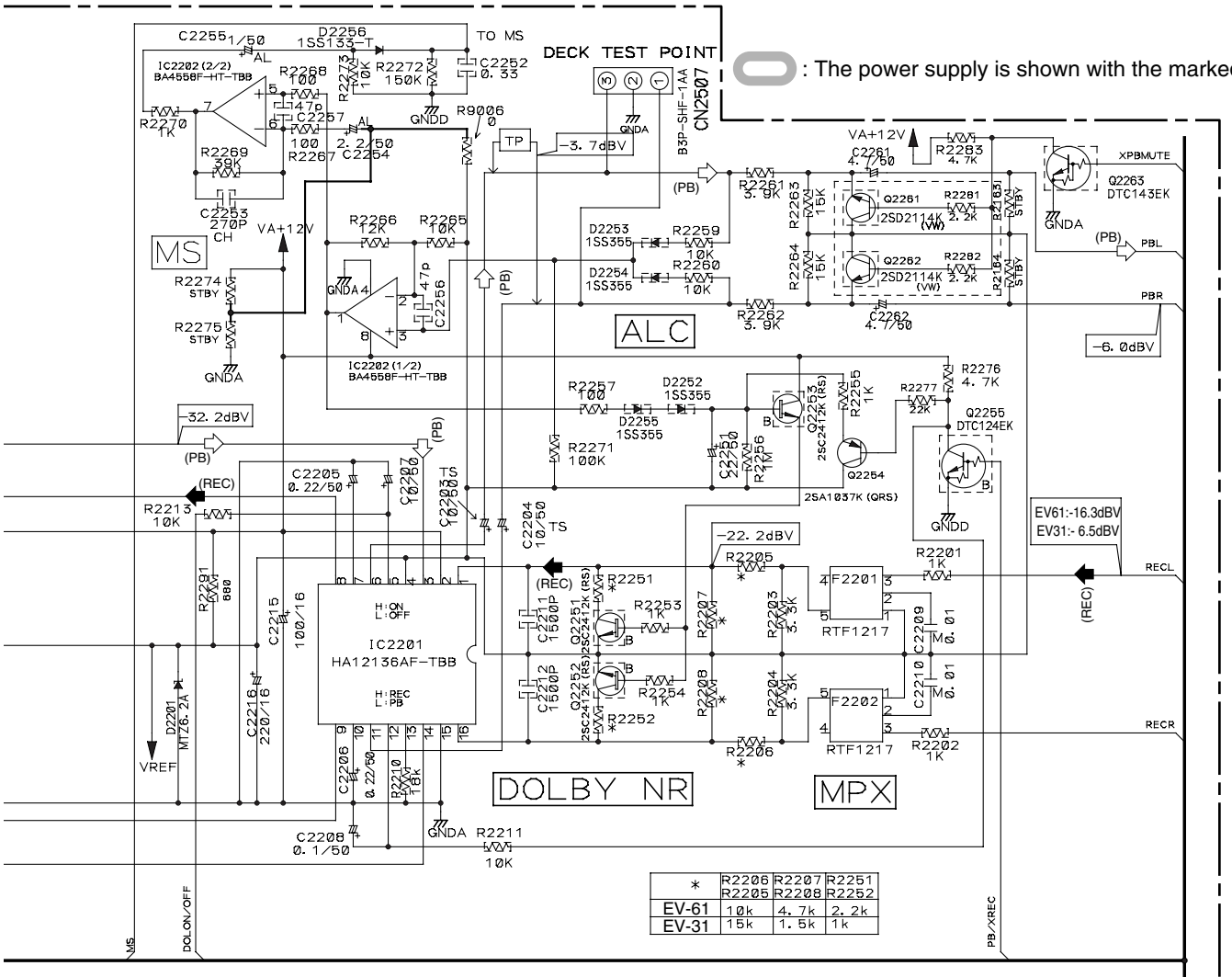
(D): DIGITAL AUDIO SIGNAL ROUTE

(DVD): AUDIO SIGNAL ROUTE (DVD_L ch)

B 3/3

3.8 DECK ASSY

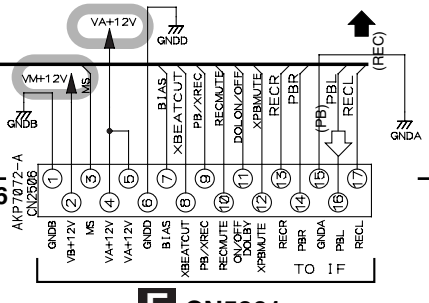

DECK ASSY
(XWX3072/XV-EV61)
(XWX3073/XV-EV31)
PB AMP
REC EQ AMP
REC LEVEL Adj.
BIAS OSC.
105KHz
BIAS OFFSET
CN2301
CN2302
Lch
Rch
PB LEVEL Adj.
MY. NV ONLY
Not Connected
NOTES
ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH***
YF : CKSRYF***
OTHER : CKSRYB***
M : CQMA***
HA : CQHA***
MB : CQMBA***
TS : CE****M##-TS
JQ : CEJQ***M##-*
AL : CEAL***M##-*
(OTHER : CEAT***M##)



SIGNAL ROUTE

(PB) : PB SIGNAL

(REC) : RECORDING SIGNAL

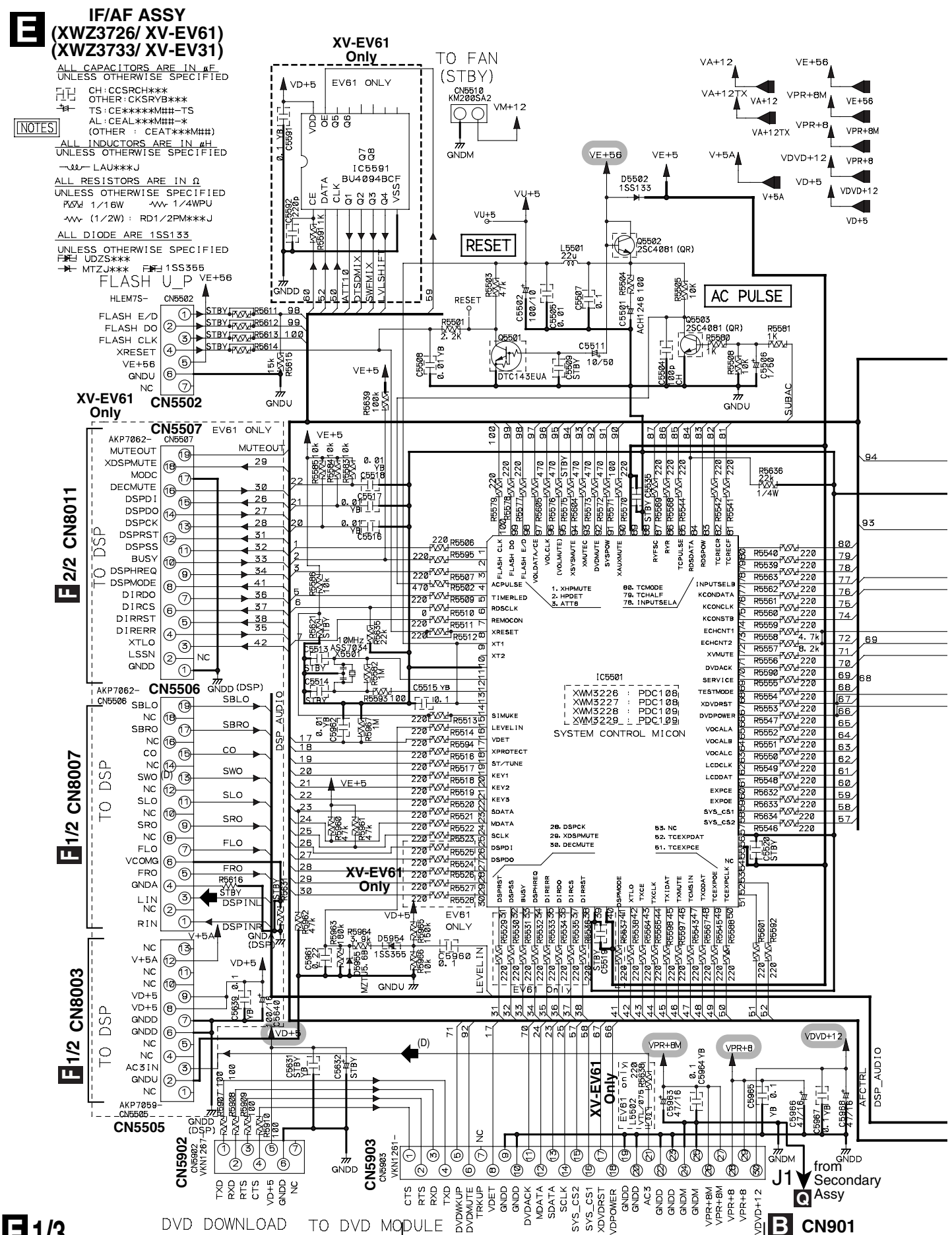


ALL RESISTORS ARE IN Ω
UNLESS OTHERWISE SPECIFIED
1/16W 1/4WPU

ALL COILS ARE IN μH
UNLESS OTHERWISE SPECIFIED
LAU***J

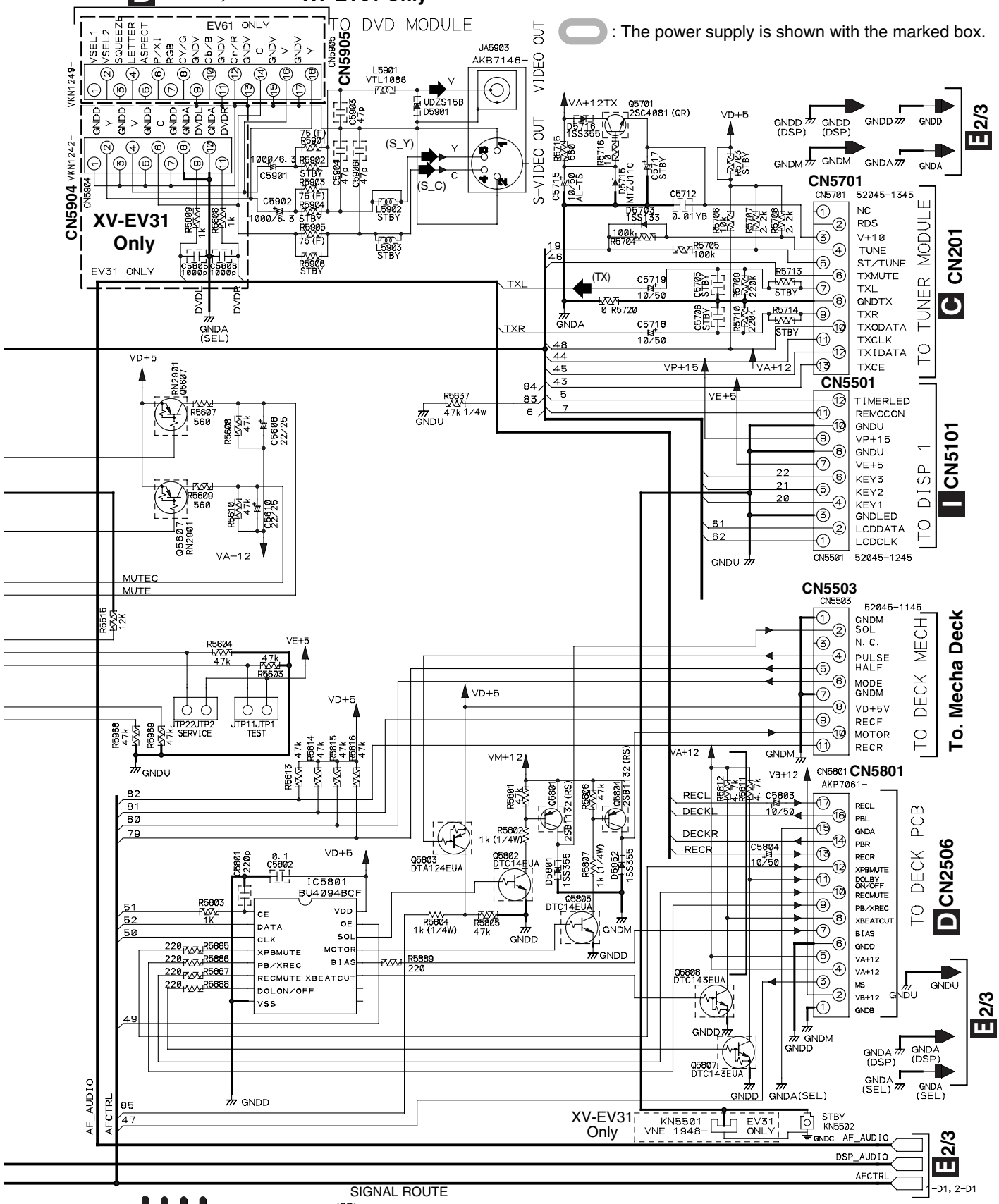
ALL DIODES ARE 1SS133
UNLESS OTHERWISE SPECIFIED
1SS133 1SS355
MTZJ***

3.9 IF/AF ASSY(1/3)

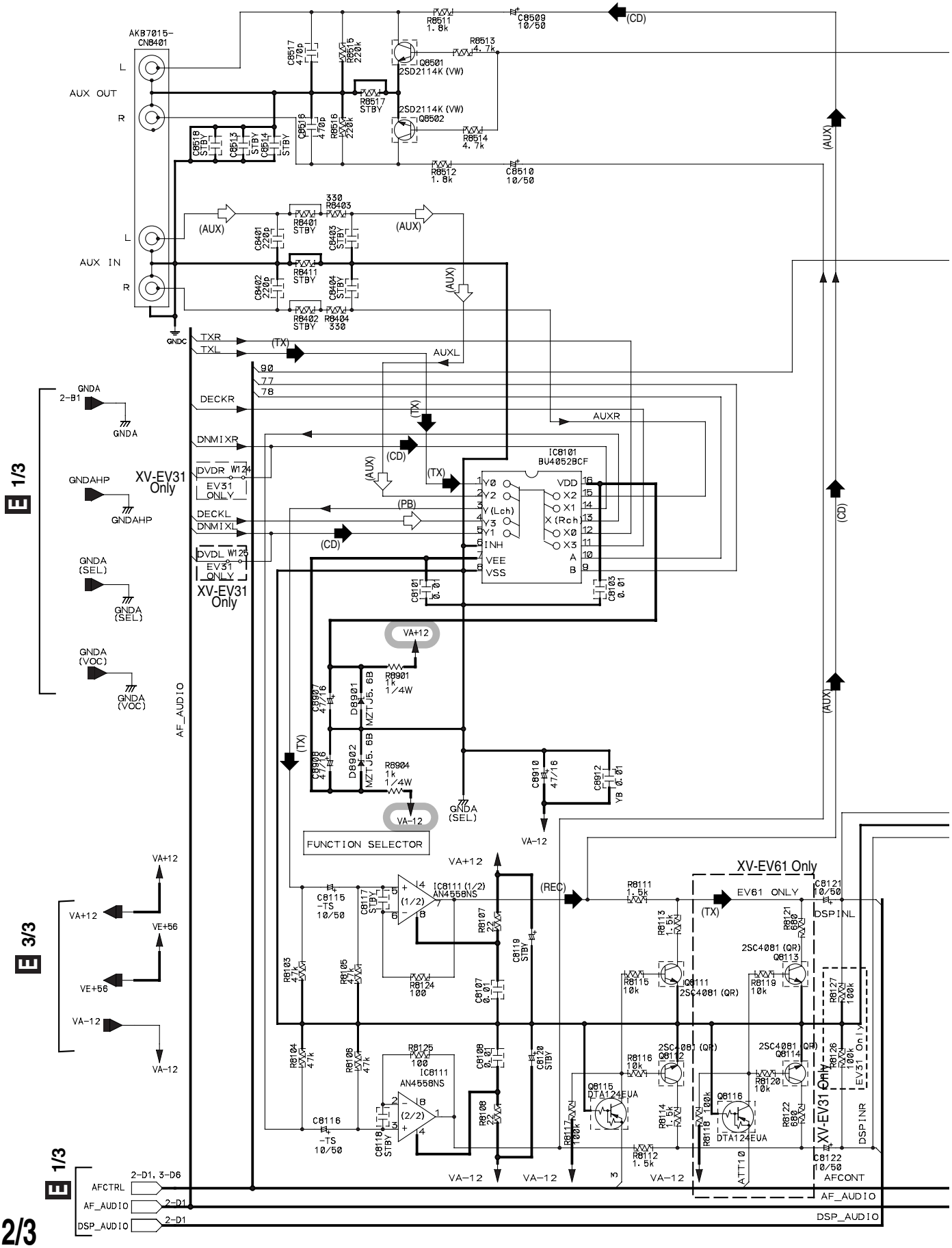


B CN903,CN902 XV-EV61 Only

: The power supply is shown with the marked box.



3.10 IF/AF ASSY(2/3)



SIGNAL ROUTE

(PB) : PB SIGNAL
(REC) : RECORDING SIGNAL
(TX) : AUDIO SIGNAL (TUNER)
(CD) : CD SIGNAL
(AUX) : AUX SIGNAL
(MIC) : MIC OUT SIGNAL

NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH (OTHER : CKSRYB)
TY : CFTYA
AL : CEAL (OTHER : CEAT)

ALL RESISTORS ARE IN Ω
RD1/4PU***J
RS1/16S***J

ALL DIODE
: 1SS355
: 1SS133

E 2/3
IF/AF ASSY
(XWZ3726 / XV-EV61)
(XWZ3733 / XV-EV31)

J J5401
CN5105 GNDA MIC SW MIC VA+12 ECHOVOL
CN5105 52147-0510

VE+56 D8501 1SS355 Q8503 DTA124EUA R8518 47k VA-12
HPAC1
AFCTRL
72
R5431 1M R5432 1M Q5402 2SJ103 (GR) C5433 0.22uF 50V R5434 22K
(MIC)

IC8201 M65847AFP
ADCONT DACCONT1 DACCONT2 KEYDOWN KEYUP CLKO SDATA SCK STROBE KEY4 KEY5 REF GND Vcc
MODE2 MODE1 DAINT OUT DAINT IN ADINT OUT ADINT IN LPF1IN LPF1OUT HPFIN HPFOUT LPF2IN LPF2OUT MIX IN MIX OUT
KEY CON
C8207 0.068 C8208 0.068 C8209 0.068 C8210 STBY R8212 1k C8211 STBY R8213 1k R8214 1k C8212 100p C8213 47/16
C8206 8200p R8217 15k C8214 0.22 C8215 0.22 R8206 10k C8216 1200p C8217 1200p R8205 10k R8204 5.6k C8219 1200p R8207 6.8k R8208 15k R8210 15k R8209 4.7k C8218 0.01 R8203 10k C8203 0.01 C8204 0.01 R8202 10k C8220 1000p R8211 6.8k R8201 10k
VA+12
2SD1858X(QR) Q8201 L8201 STBY C8222 47/16 R8215 68 R8216 1k 1/4W C8223 0.047 D8201 MTZJ5.6B C8221 10/50
GNDA

C8313 0.01 (MIC) C8312 4.7/50 C8202 0.047 C8201 47/16
IC8301 BA3838F
MIC IN LOUT SW2 SW1 LIN RIN ROUT Vcc GND
C8310 2.2/50 C8309 2.2/50 REF C8308 2.2/50 C8307 47/16 C8306 0.047 C8305 2.2/50 C8304 0.22
C8301 0.1 C8302 0.1 C8303 0.1
R8301 1k R8302 1k R8303 1k
VOCAL FADER
C8316 STBY R8306 R8305 C8315 STBY
(MIC) (TX) (MIC) (REC)
RECL RECR
EV31 ONLY W269 FL
W225 FR
EV31 Only
R8307 2.7k R8304 2.7k

R8305, R8306

EV61	EV31
680	1k

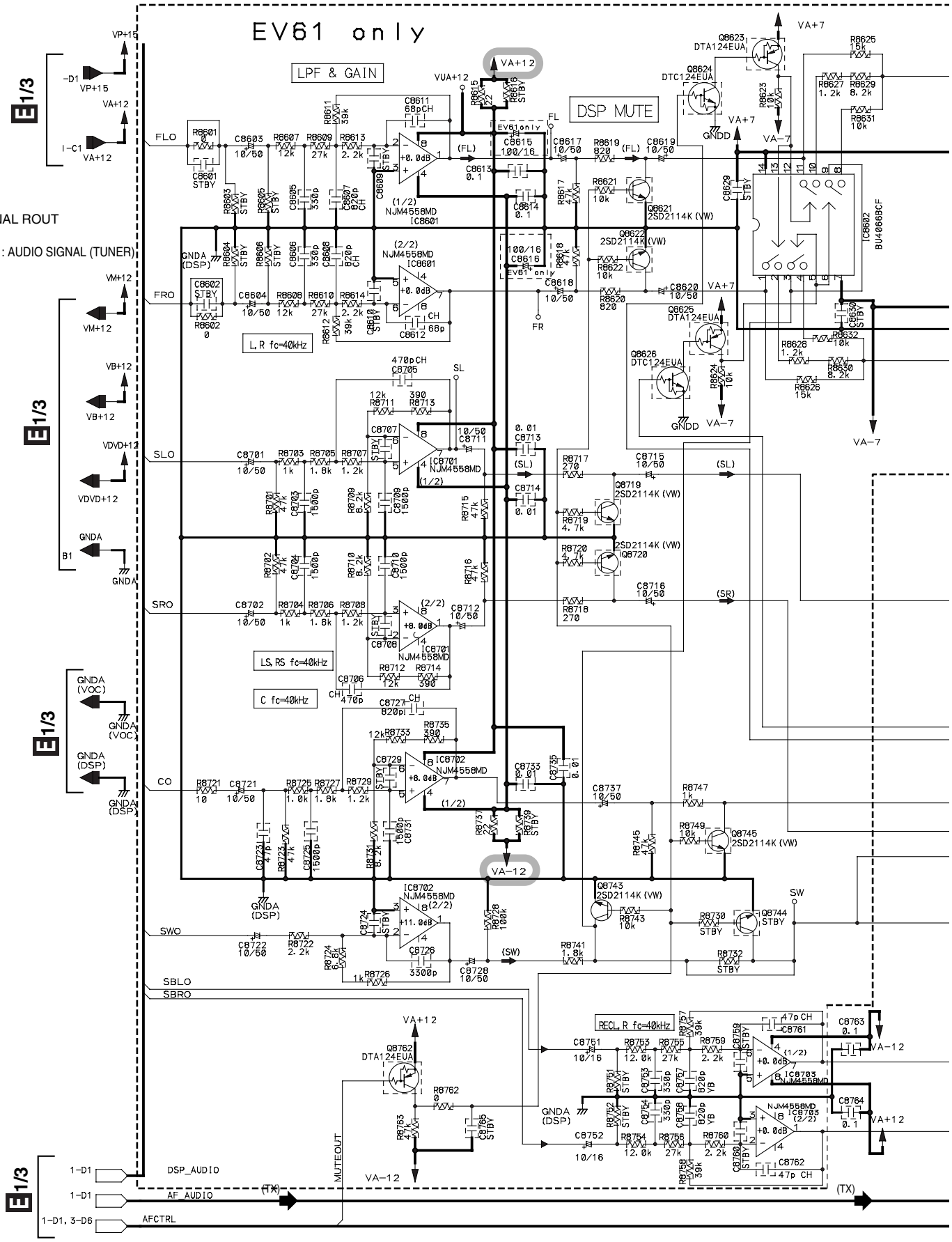
(REC) (TX) (REC)

EV61 ONLY XV-EV61 Only
R8805 56k R8803 10k C8835 10/50 C8803 STBY
LEVEL IN
IC8801 AN4558NS
R8801 10k C8833 10/50
R8802 10k C8834 10/50
R8804 STBY C8836 STBY
LCD SPECTRUM INDICATOR
(REC) CENTER
(REC)
SW
AF_AUDIO

VA+12
STBY C8831
STBY R8816 C8830 0.01
IC8801 AN4558NS
C8828 0.01
C8829 STBY
VA-12

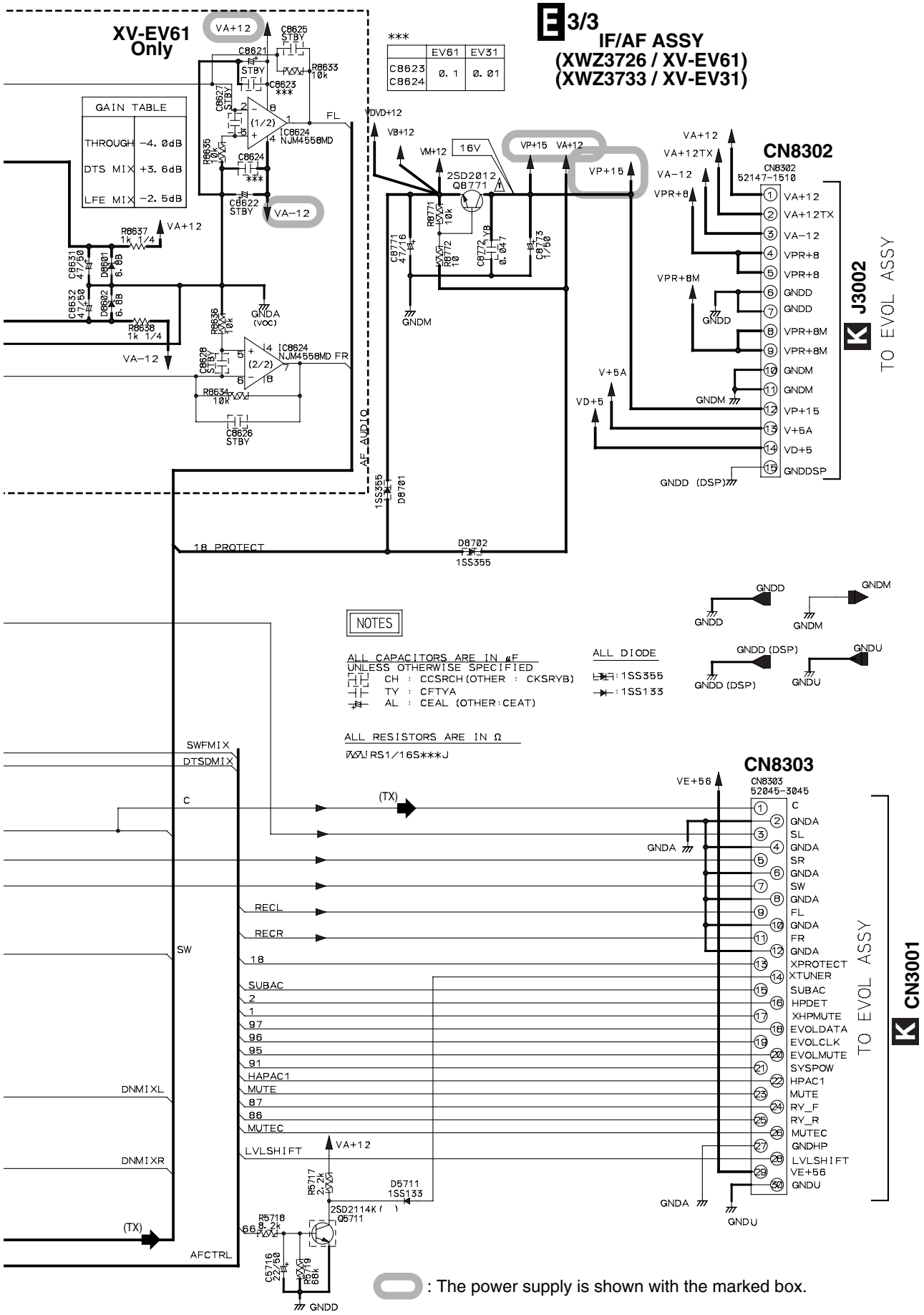
: The power supply is shown with the marked box.

3.11 IF/AF ASSY(3/3)



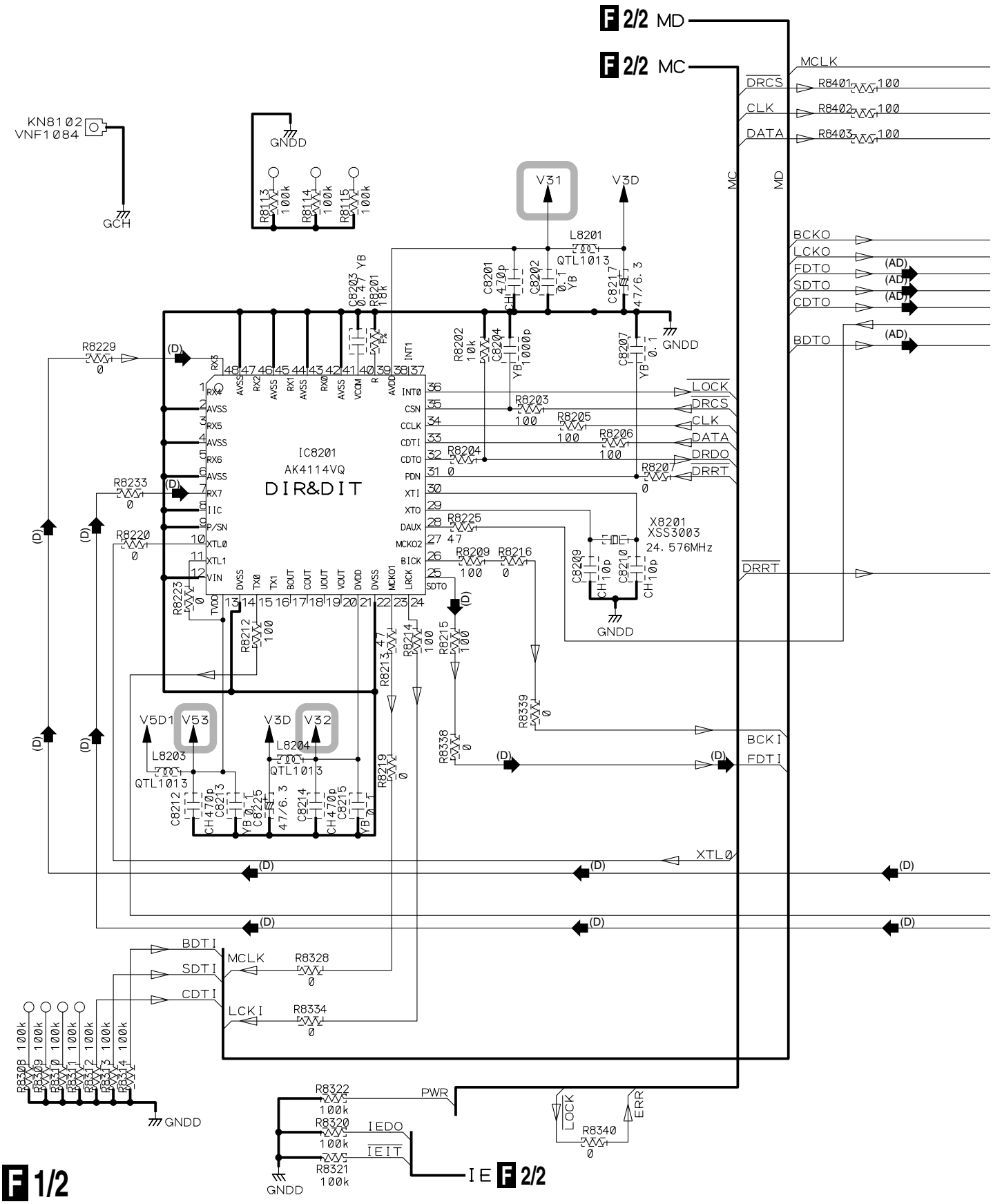
E3/3

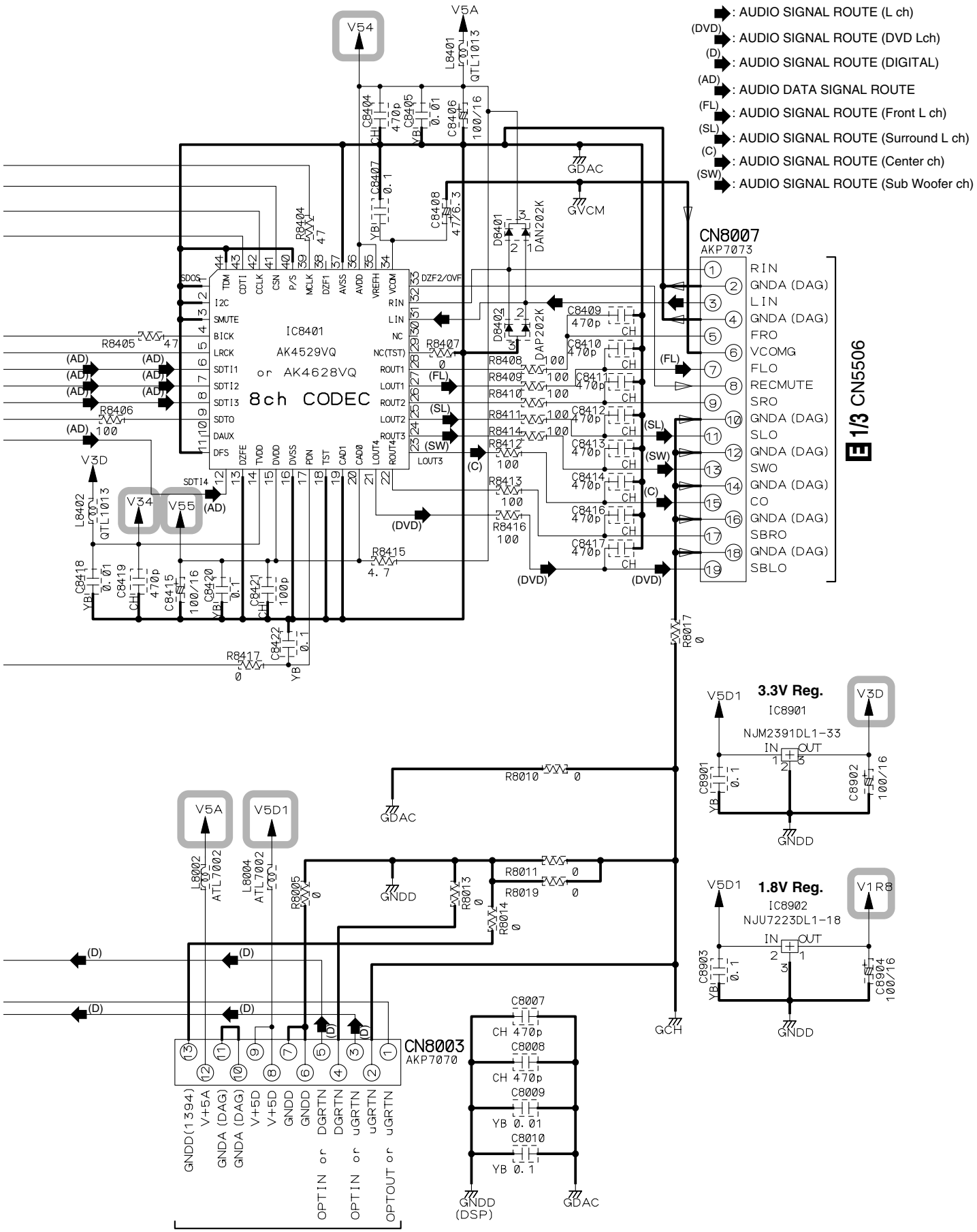
E 3/3
IF/AF ASSY
(XWZ3726 / XV-EV61)
(XWZ3733 / XV-EV31)



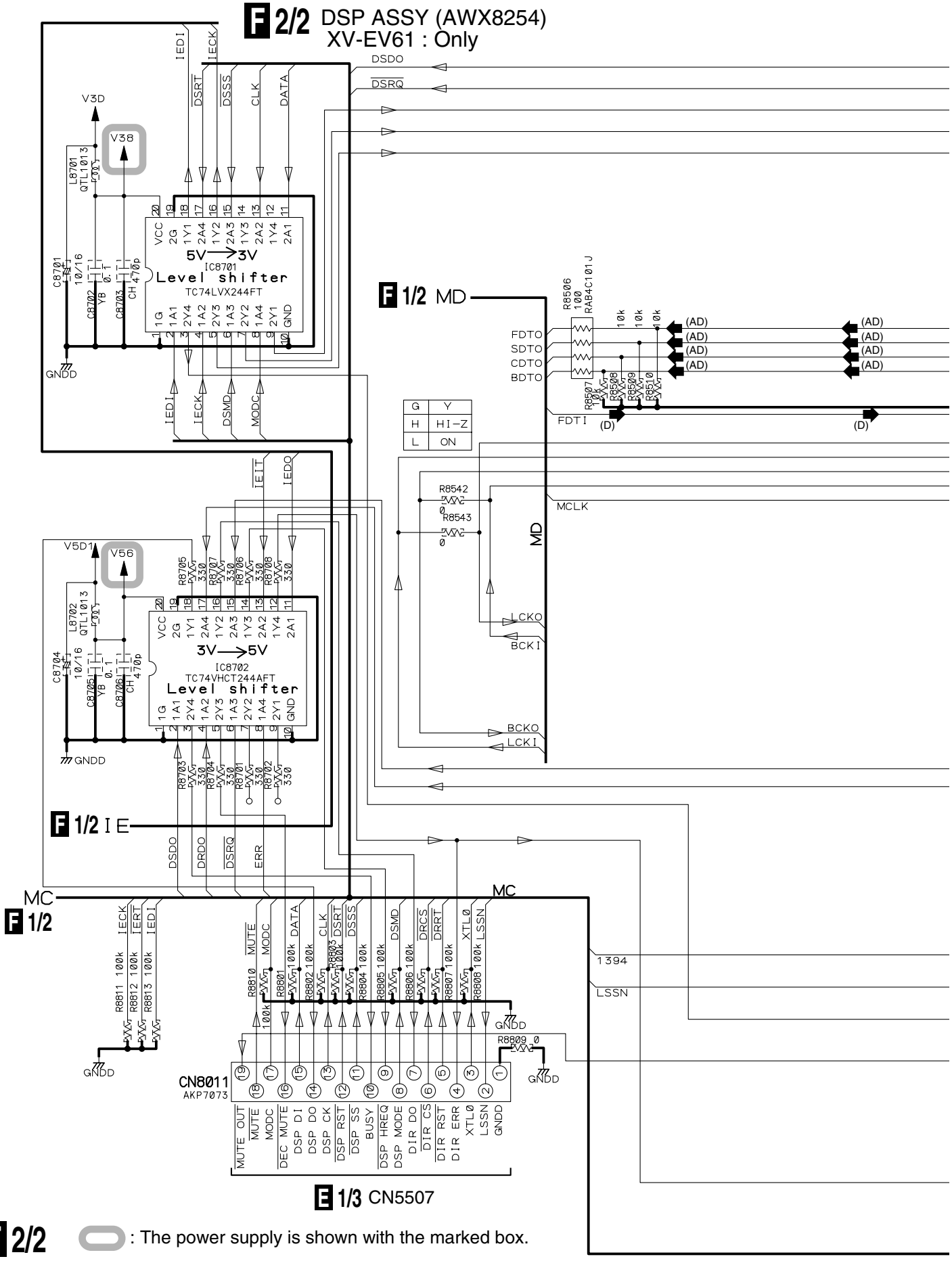
3.12 DSP ASSY(1/2)

F 1/2 DSP ASSY (AWX8254)
XV-EV61 : Only

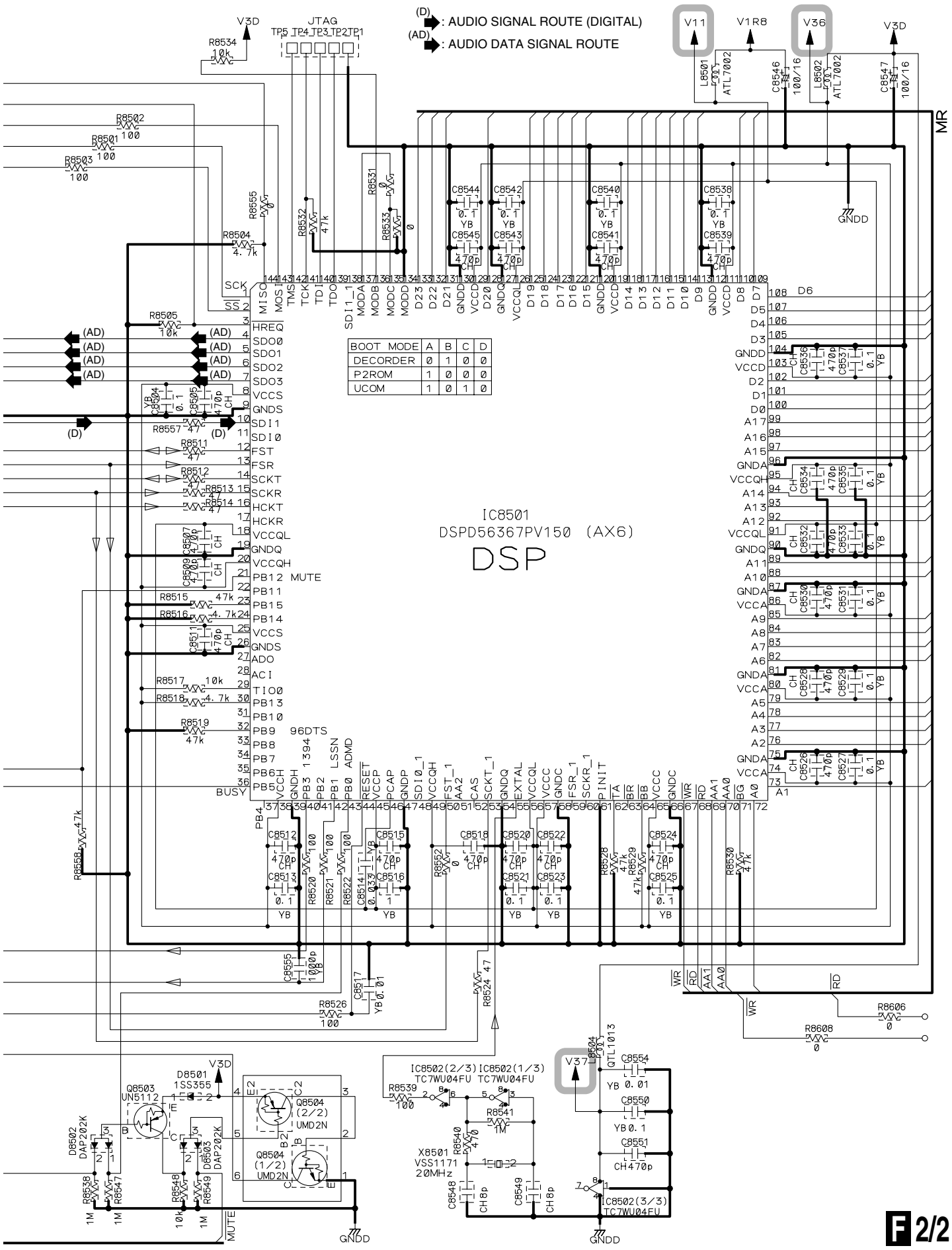



: AUDIO SIGNAL ROUTE (L ch)
(DVD) : AUDIO SIGNAL ROUTE (DVD Lch)
(D) : AUDIO SIGNAL ROUTE (DIGITAL)
(AD) : AUDIO DATA SIGNAL ROUTE
(FL) : AUDIO SIGNAL ROUTE (Front L ch)
(SL) : AUDIO SIGNAL ROUTE (Surround L ch)
(C) : AUDIO SIGNAL ROUTE (Center ch)
(SW) : AUDIO SIGNAL ROUTE (Sub Woofer ch)
IC8401
AK4529VQ
or AK4628VQ
8ch CODEC
CN8007
AKP7073
E 1/3 CN5506
CN8003
AKP7070
E 1/3 CN5505
3.3V Reg.
IC8901
NJM2391DL1-33
1.8V Reg.
IC8902
NJU7223DL1-18
: The power supply is shown with the marked box.
F 1/2

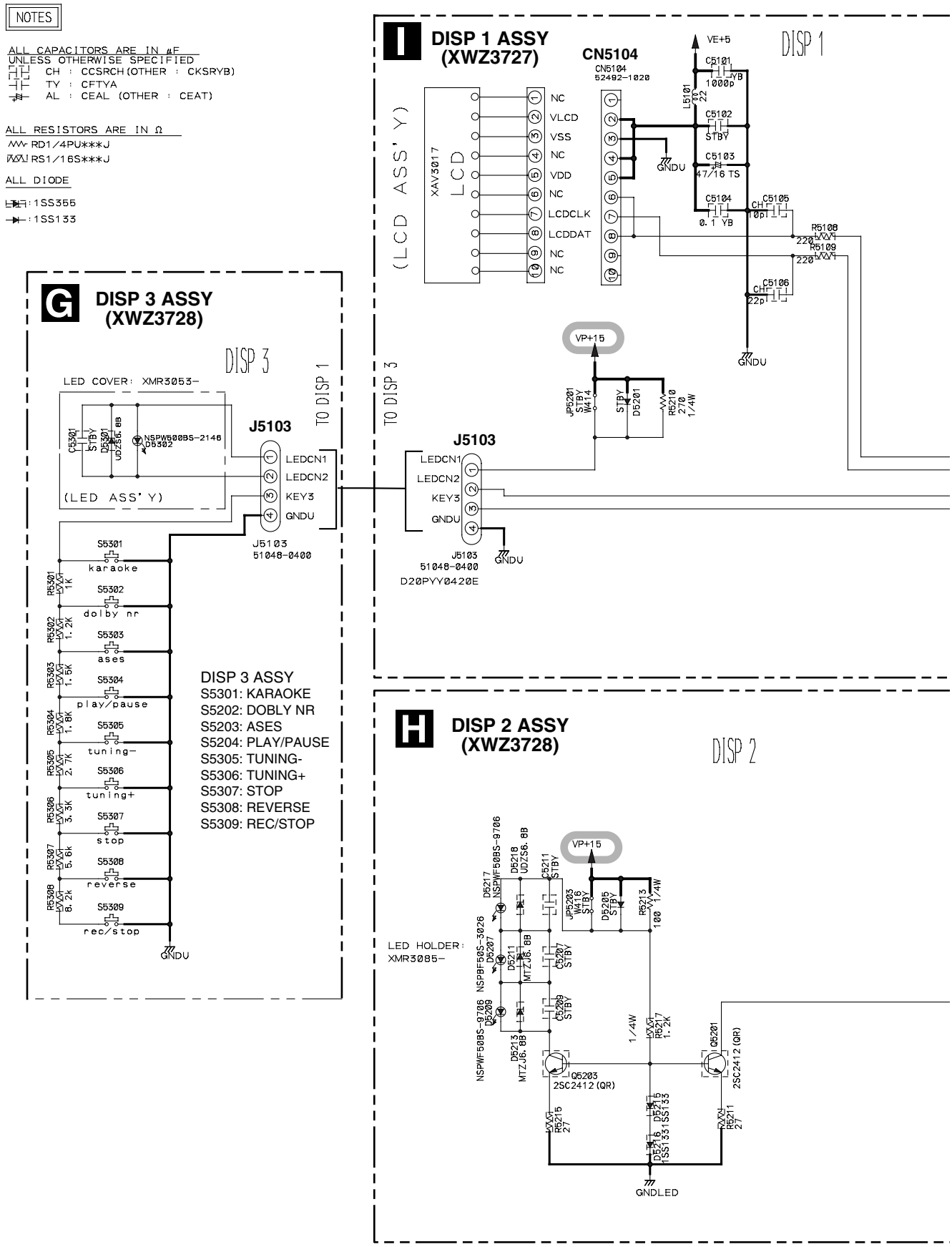
3.13 DSP ASSY (2/2)



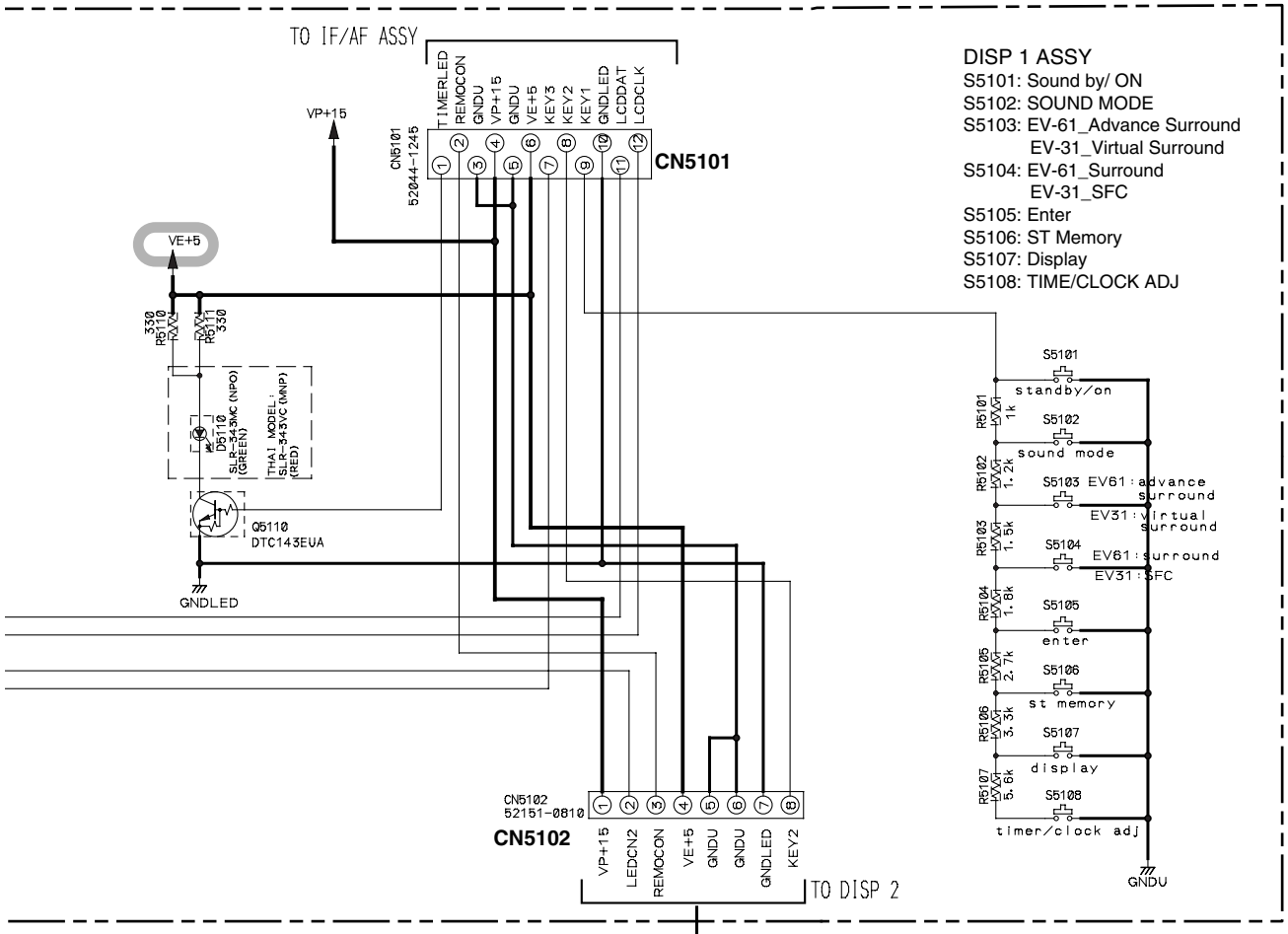
F 2/2 : The power supply is shown with the marked box.

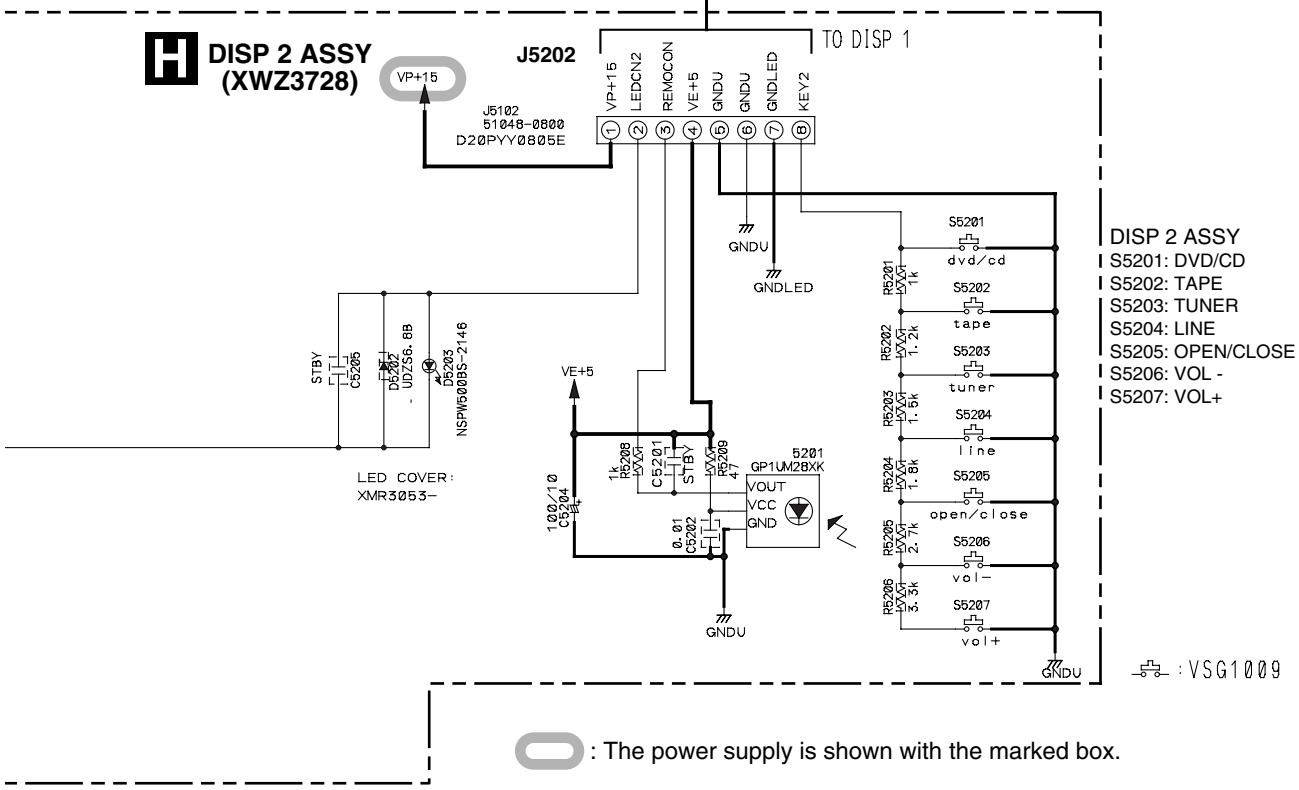

(D): AUDIO SIGNAL ROUTE (DIGITAL)
(AD): AUDIO DATA SIGNAL ROUTE
IC8501
DSPD56367PV150 (AX6)
DSP
BOOT MODE | A | B | C | D
DECORDER | 0 | 1 | 0 | 0
P2ROM | 1 | 0 | 0 | 0
UCOM | 1 | 0 | 1 | 0
V3D
V11
V1R8
V36
JTAG
TP5 TP4 TP3 TP2 TP1
GNDD
MR
MUTE
IC8502(2/3) IC8502(1/3) TC7WU04FU TC7WU04FU
IC8502(3/3) TC7WU04FU
X8501 VSS1171 20MHz

3.14 DISP ASSY



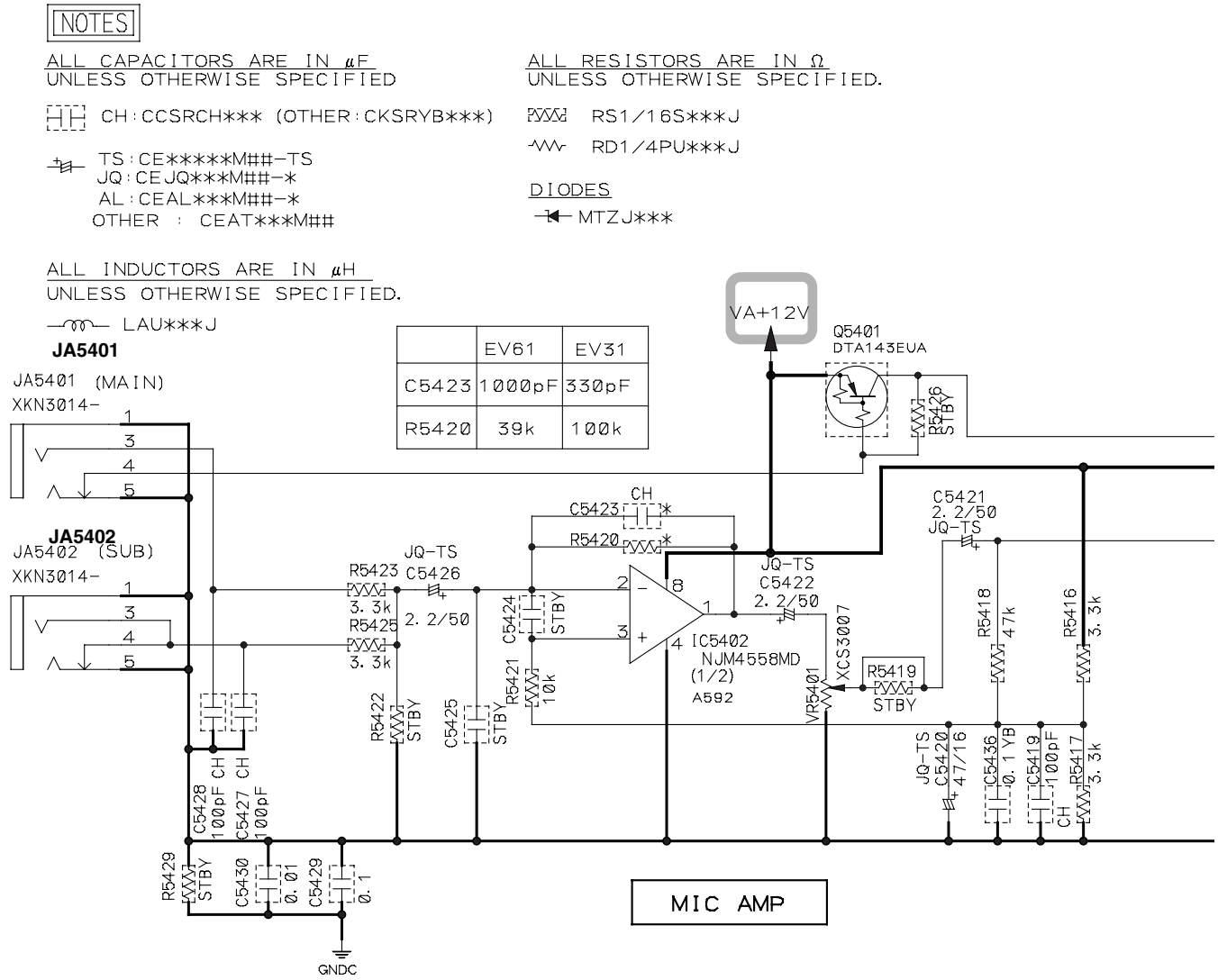
E CN5501

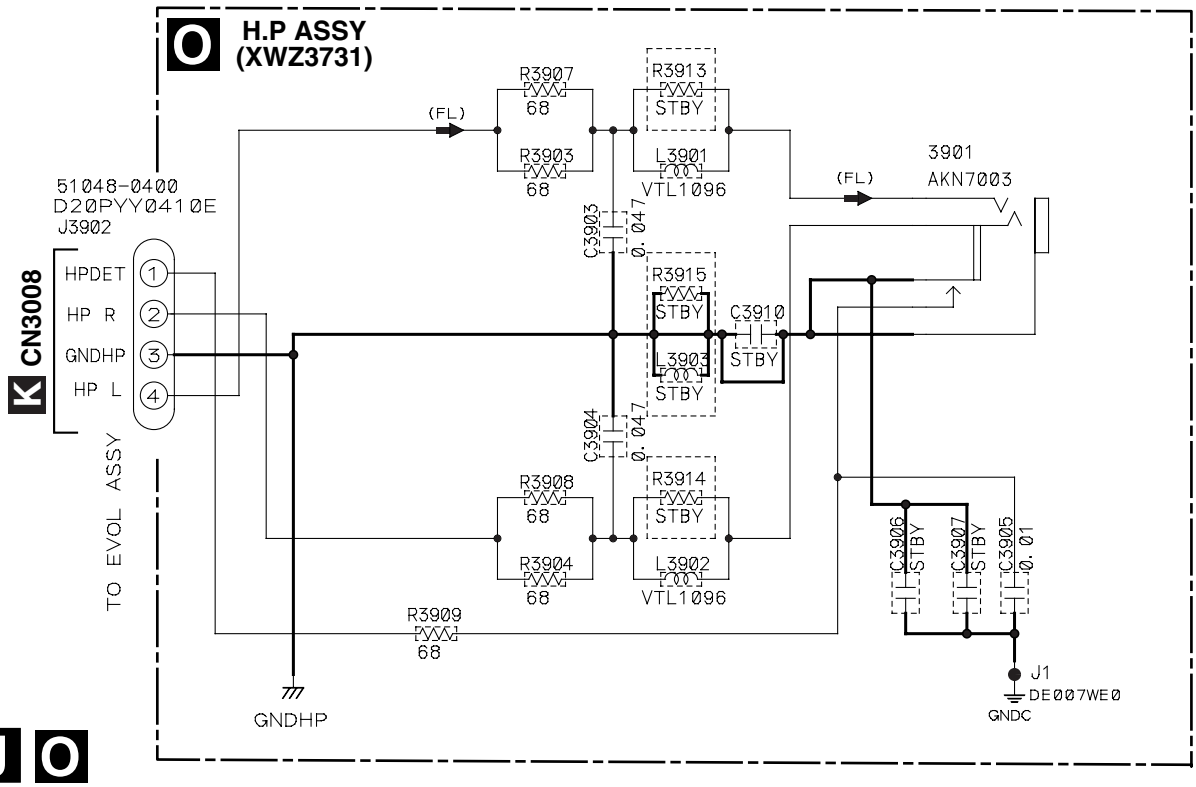




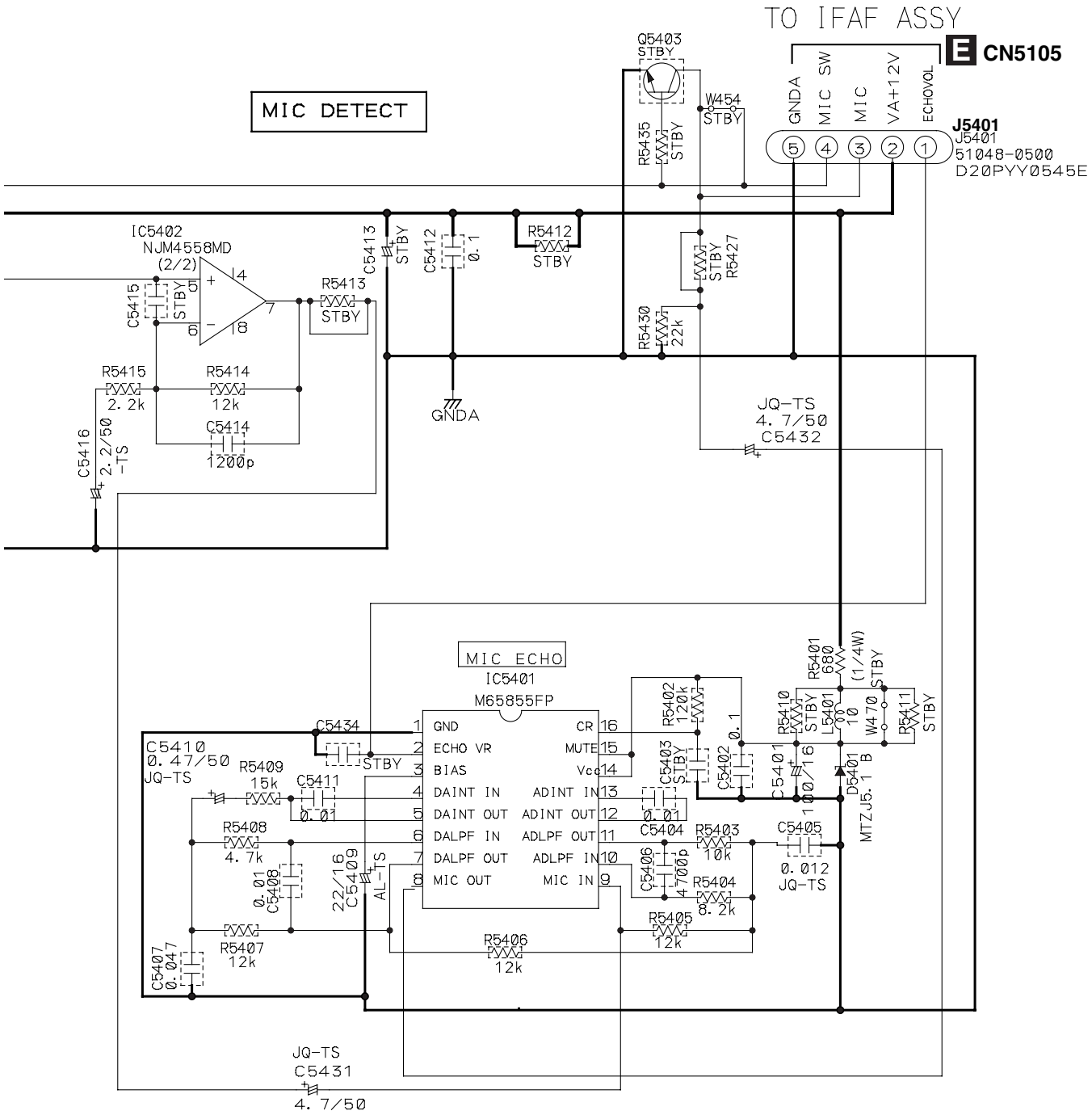
: The power supply is shown with the marked box.

3.15 MIC ASSY


NOTES
ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH*** (OTHER : CKSRYB***)
TS : CE*****M###-TS
JQ : CEJQ***M###-*
AL : CEAL***M###-*
OTHER : CEAT***M###
ALL RESISTORS ARE IN Ω
UNLESS OTHERWISE SPECIFIED.
RS1/16S***J
RD1/4PU***J
DIODES
MTZJ***
ALL INDUCTORS ARE IN μH
UNLESS OTHERWISE SPECIFIED.
LAU***J
JA5401
JA5401 (MAIN)
XKN3014-
JA5402
JA5402 (SUB)
XKN3014-
EV61
EV31
C5423 1000pF 330pF
R5420 39k 100k
VA+12V
Q5401
DTA143EUA
R5426
STBY
C5423
CH
R5420
C5421
2.2/50
JQ-TS
R5423
3.3k
C5426
2.2/50
R5425
3.3k
C5424
STBY
R5421
10k
R5422
STBY
C5425
STBY
IC5402
NJM4558MD
(1/2)
A592
JQ-TS
C5422
2.2/50
XCS3007
VR5401
R5419
STBY
R5418
47k
R5416
3.3k
JQ-TS
C5420
47/16
C5436
0.1 YB
C5419
100pF
CH
R5417
3.3k
C5428
100pF CH
C5427
100pF CH
R5429
STBY
C5430
0.01
C5429
0.1
GNDC
MIC AMP

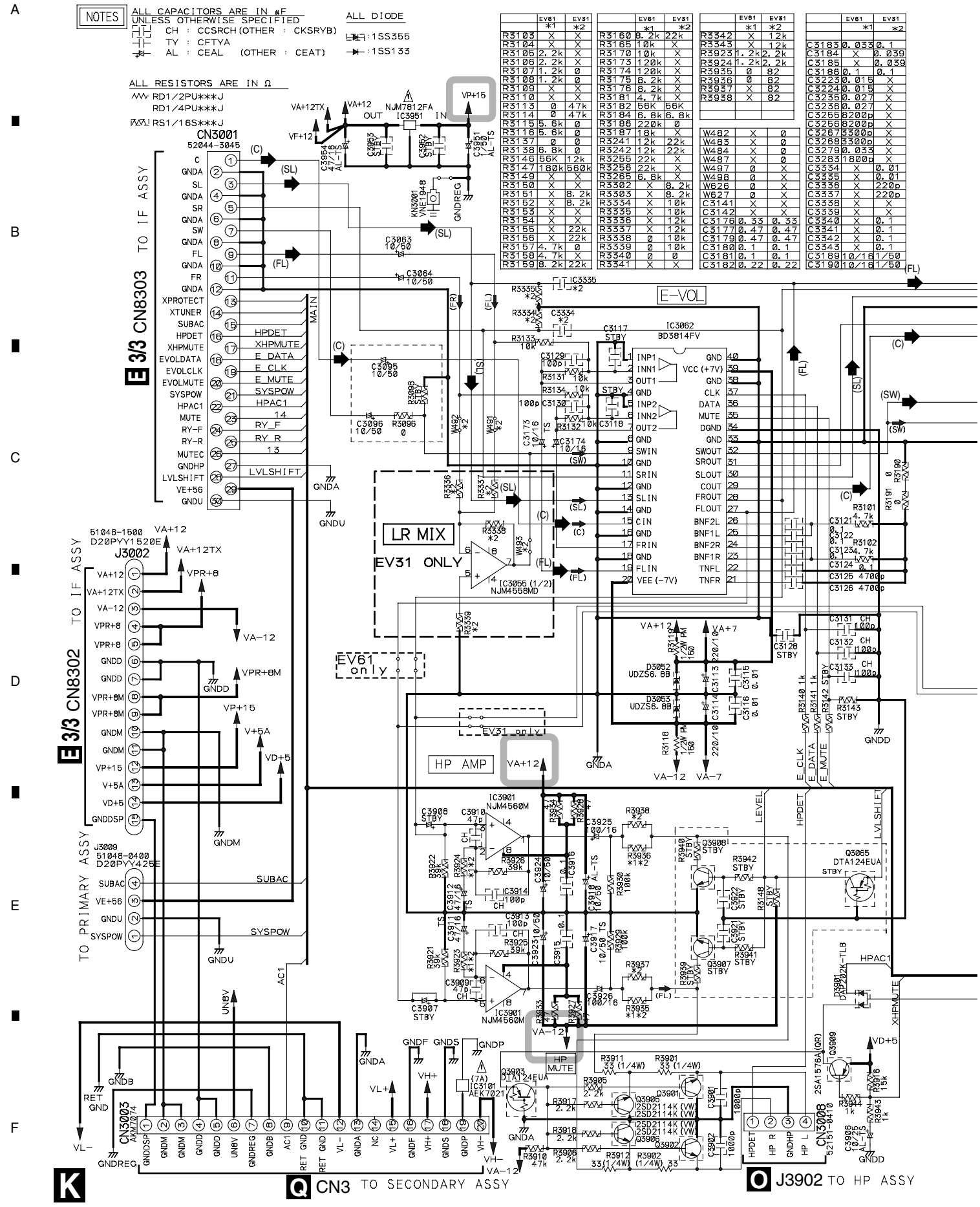

O
H.P ASSY
(XWZ3731)
51048-0400
D20PYY0410E
J3902
CN3008
HPDET
HP R
GNDHP
HP L
TO EVOL ASSY
(FL)
R3907
68
R3903
68
R3913
STBY
L3901
VTL1096
3901
AKN7003
C3903
0.047
R3915
STBY
C3910
STBY
L3903
STBY
C3904
0.047
R3908
68
R3904
68
R3914
STBY
L3902
VTL1096
R3909
68
C3906
STBY
C3907
STBY
C3905
0.01
J1
DE007WE0
GNDC
GNDHP
J O

J MIC ASSY
(XWZ3730 / XV-EV61)
(XWZ3734 / XV-EV31)



: The power supply is shown with the marked box.

3.16 EVOL ASSY

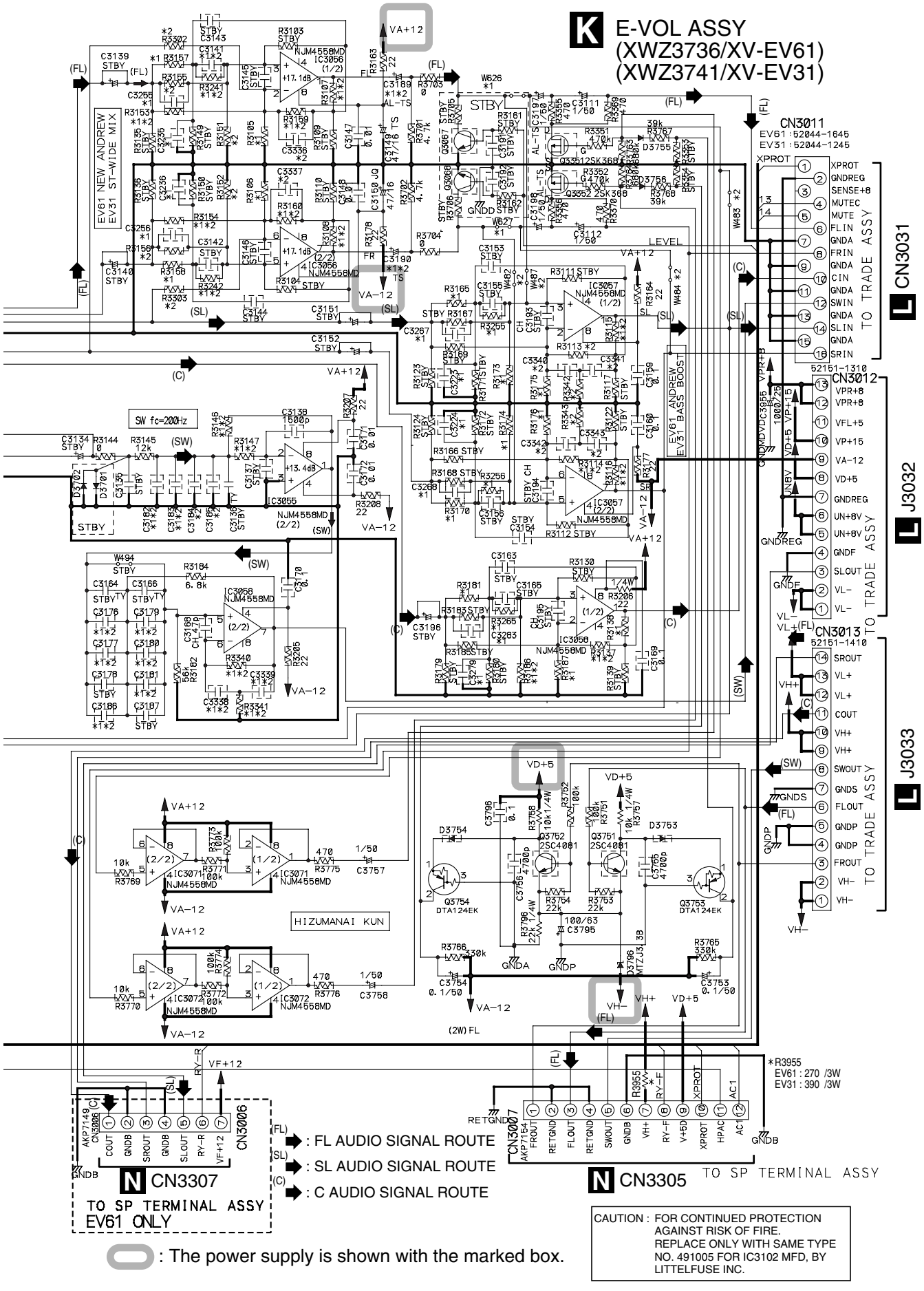


	EV61 *1	EV31 *2
R3103	X	X
R3104	X	X
R3105	2.2k	X
R3106	2.2k	X
R3107	1.2k	0
R3108	1.2k	0
R3109	X	X
R3110	X	X
R3113	0	47k
R3114	0	47k
R3115	5.6k	0
R3116	5.6k	0
R3137	0	0
R3138	6.8k	0
R3146	56K	12k
R3147	180k	560k
R3149	X	X
R3150	X	X
R3151	X	8.2k
R3152	X	8.2k
R3153	X	X
R3154	X	X
R3155	X	22k
R3156	X	22k
R3157	4.7k	0
R3158	4.7k	X
R3159	8.2k	22k

	EV61 *1	EV31 *2
R3160	8.2k	22k
R3165	10k	X
R3170	10k	X
R3173	120k	X
R3174	120k	X
R3175	8.2k	X
R3176	8.2k	X
R3181	4.7k	X
R3182	56K	56K
R3184	6.8k	6.8k
R3186	220k	0
R3187	18k	X
R3241	12k	22k
R3242	12k	22k
R3255	22k	X
R3256	22k	X
R3265	6.8k	X
R3302	X	8.2k
R3303	X	8.2k
R3334	X	10k
R3335	X	10k
R3336	X	12k
R3337	X	12k
R3338	0	10k
R3339	0	10k
R3340	0	0
R3341	X	X

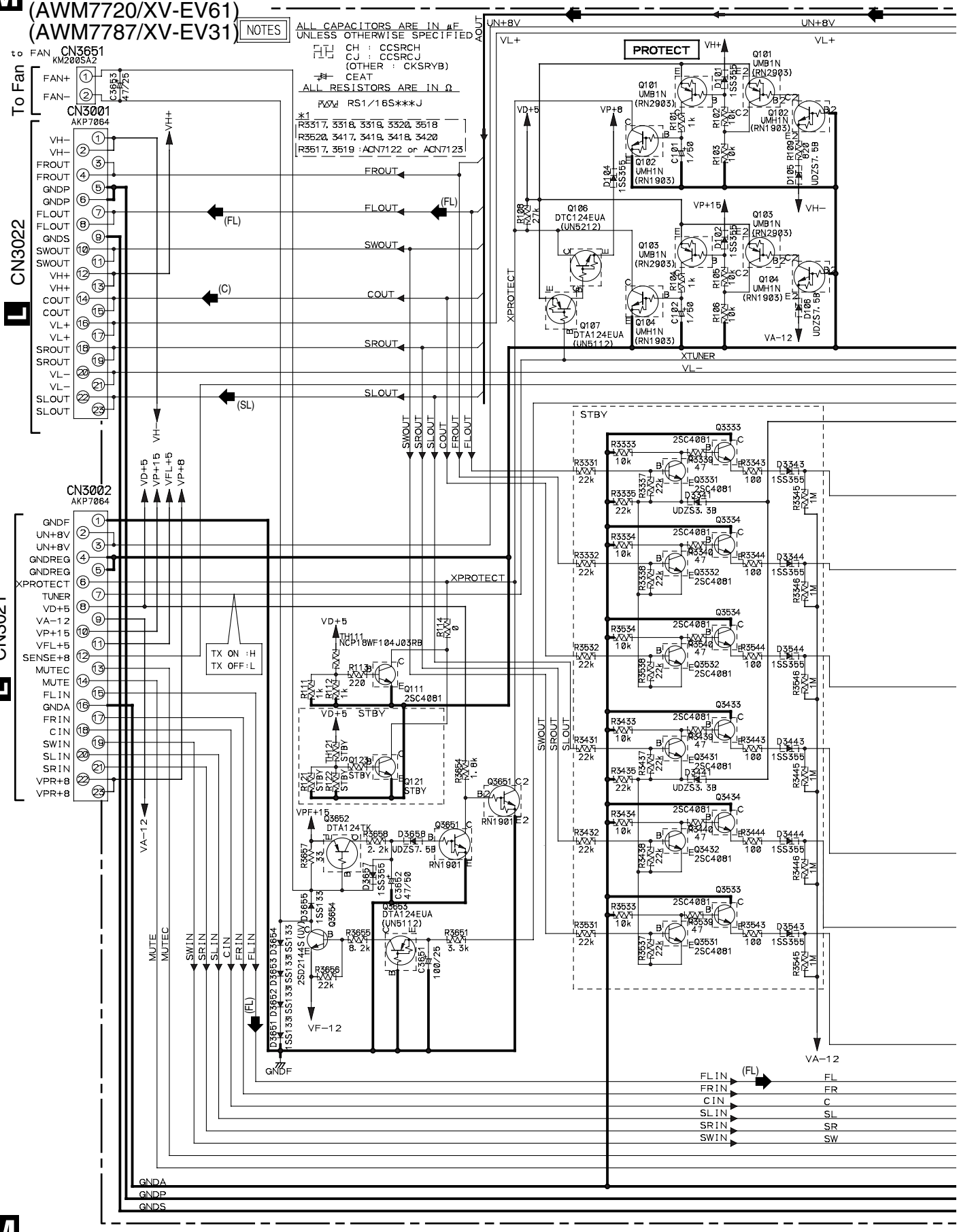
	EV61 *1	EV31 *2
R3342	X	12k
R3343	X	12k
R3923	1.2k	2.2k
R3924	1.2k	2.2k
R3935	0	82
R3936	0	82
R3957	X	82
R3958	X	82
W482	X	0
W483	X	0
W484	X	0
W487	X	0
W497	0	X
W498	0	X
W626	0	X
W627	0	X
C3141	X	X
C3142	X	X
C3176	0.33	0.33
C3177	0.47	0.47
C3179	0.47	0.47
C3180	0.1	0.1
C3181	0.1	0.1
C3182	0.22	0.22

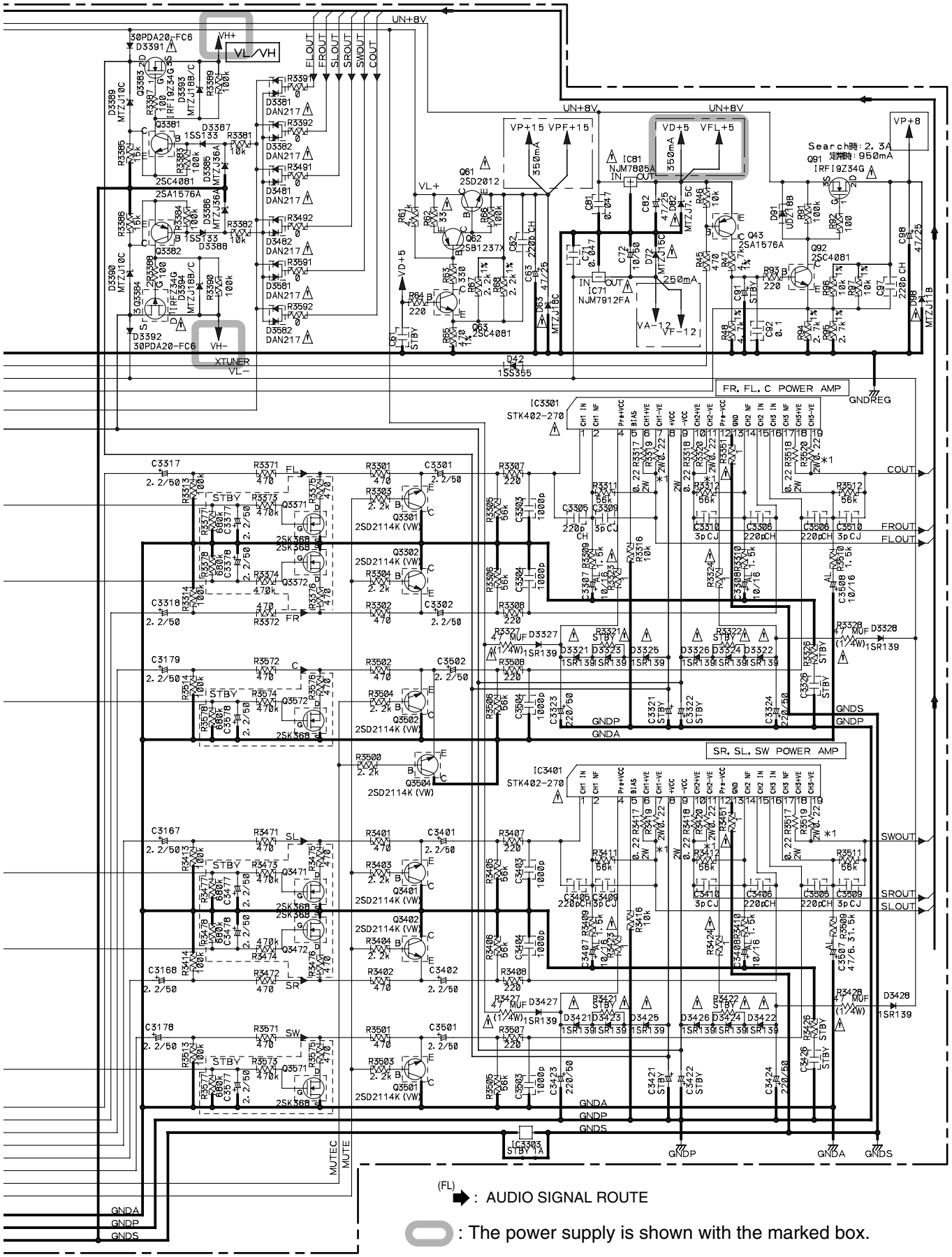
	EV61 *1	EV31 *2
C3183	0.033	0.1
C3184	X	0.039
C3185	X	0.039
C3186	0.1	0.1
C3223	0.015	X
C3224	0.015	X
C3235	0.027	X
C3236	0.027	X
C3255	6200p	X
C3256	6200p	X
C3267	3300p	X
C3268	3300p	X
C3279	0.033	X
C3283	1800p	X
C3334	X	0.01
C3335	X	0.01
C3336	X	220p
C3337	X	220p
C3338	X	X
C3339	X	X
C3340	X	0.1
C3341	X	0.1
C3342	X	0.1
C3343	X	0.1
C3189	10/16	1/50
C3190	10/16	1/50


K E-VOL ASSY
(XWZ3736/XV-EV61)
(XWZ3741/XV-EV31)
CN3011
EV61 : 52044-1645
EV31 : 52044-1245
CN3031
TO TRADE ASSY
CN3012
52151-1310
J3032
CN3013
52151-1410
J3033
EV61 NEW ANDREW
EV31 ST-WIDE MIX
EV61 ANDREW
EV31 BASS BOOST
SW fc=200Hz
HIZUMANAI KUN
CN3006
CN3307
TO SP TERMINAL ASSY
EV61 ONLY
CN3305
TO SP TERMINAL ASSY
*R3955
EV61 : 270 /3W
EV31 : 390 /3W
: FL AUDIO SIGNAL ROUTE
: SL AUDIO SIGNAL ROUTE
: C AUDIO SIGNAL ROUTE
: The power supply is shown with the marked box.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491005 FOR IC3102 MFD, BY LITTELFUSE INC.

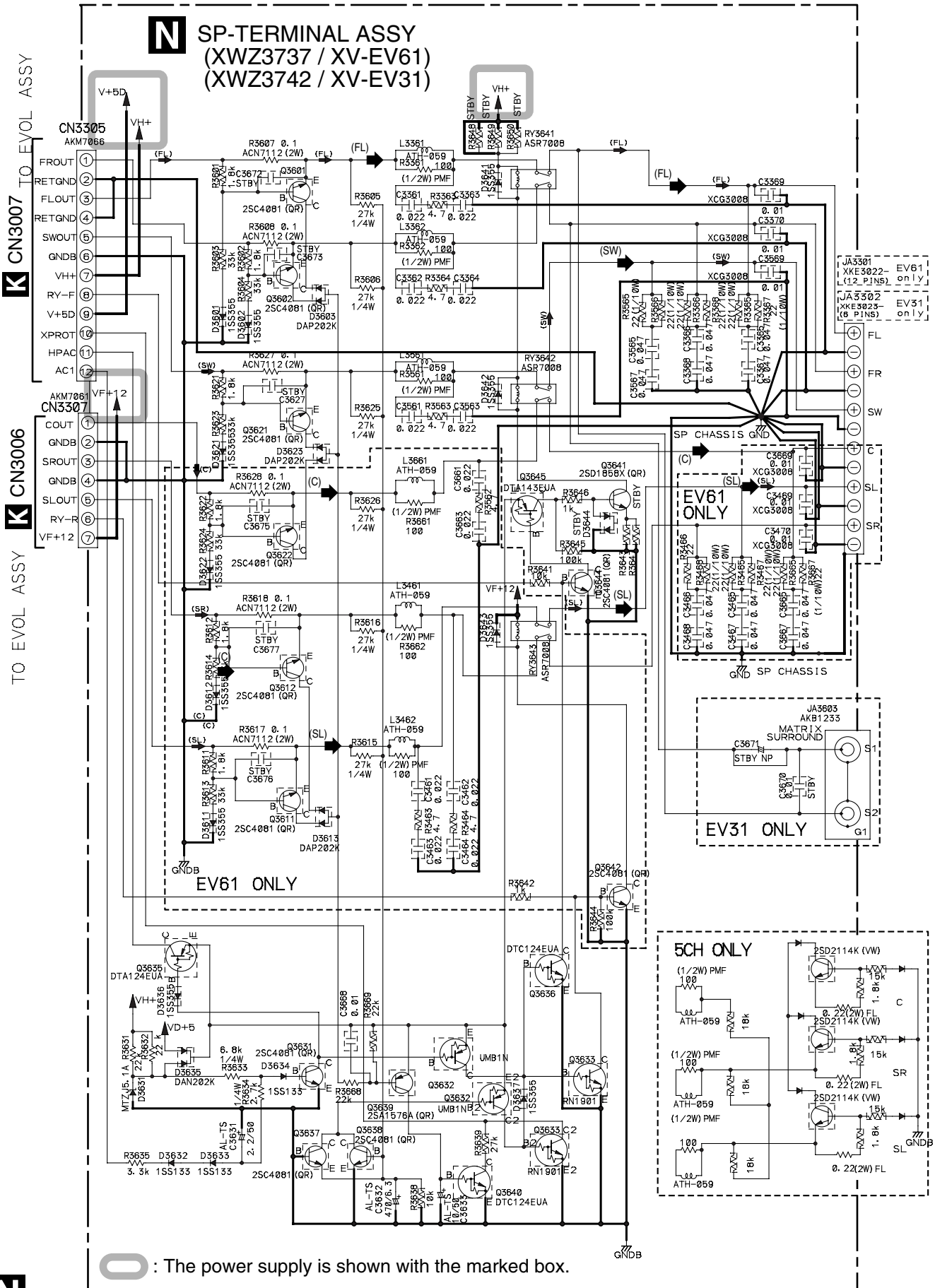
3.17 MOD. AMP ASSY

M MOD. AMP ASSY (AWM7720/XV-EV61) (AWM7787/XV-EV31)

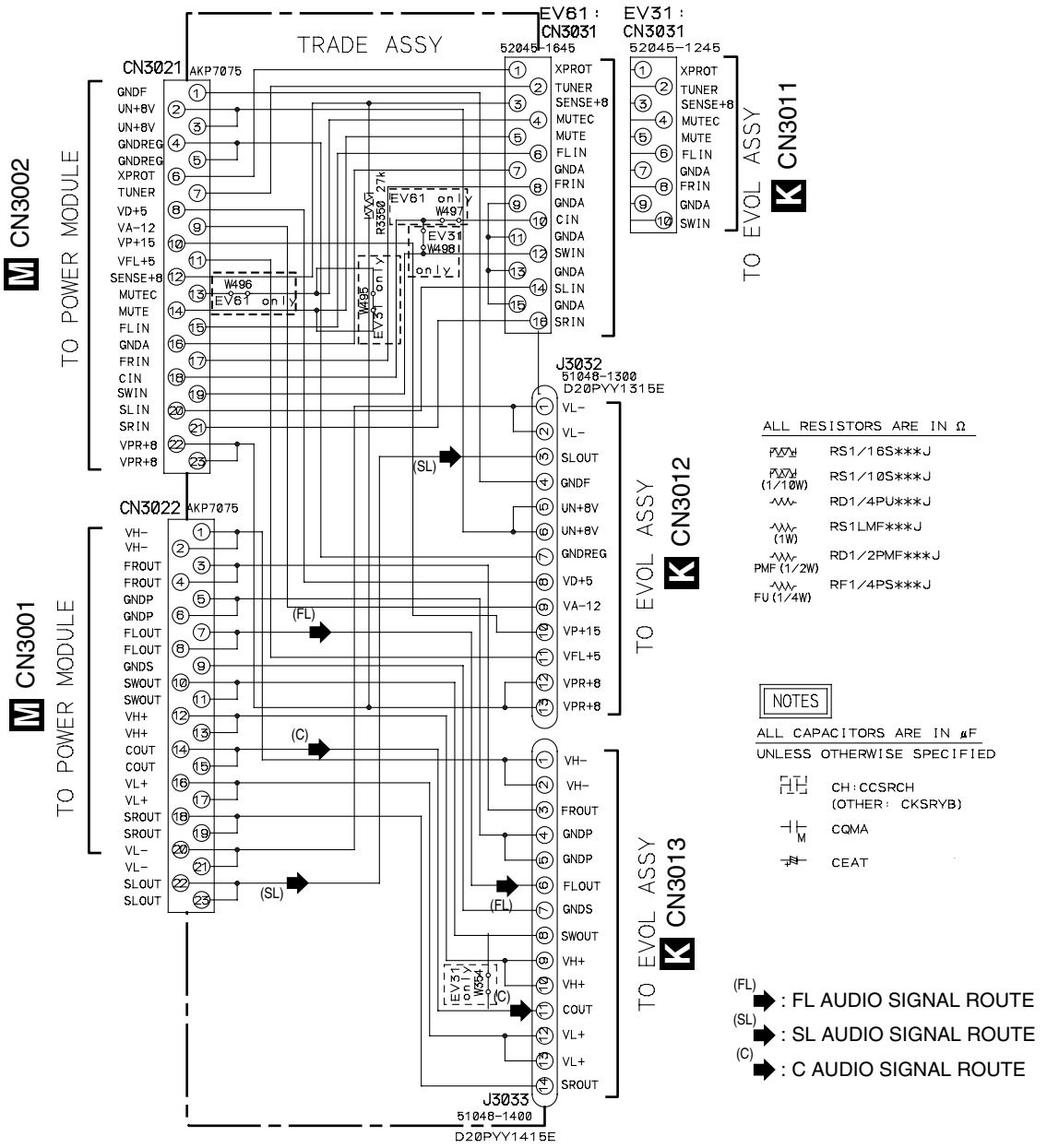



FR, FL, C POWER AMP
SR, SL, SW POWER AMP
IC3301
STK402-270
IC3401
STK402-270
IC81
NJM7805A
IC71
NJM7912FA
UN+8V
VP+15
VPF+15
VD+5
VFL+5
VP+8
VA-12
VF-12
VL+
VD+5
VH+
VH-
VL-
XTUNER
GNDREG
GNDP
GNDA
GNDS
MUTEC
MUTE
STBY
COUT
FROUT
FLOUT
SWOUT
SROUT
SLOUT
FL
FR
SL
SR
SW
Search時: 2.3A
定格時: 950mA
(FL) : AUDIO SIGNAL ROUTE
: The power supply is shown with the marked box.

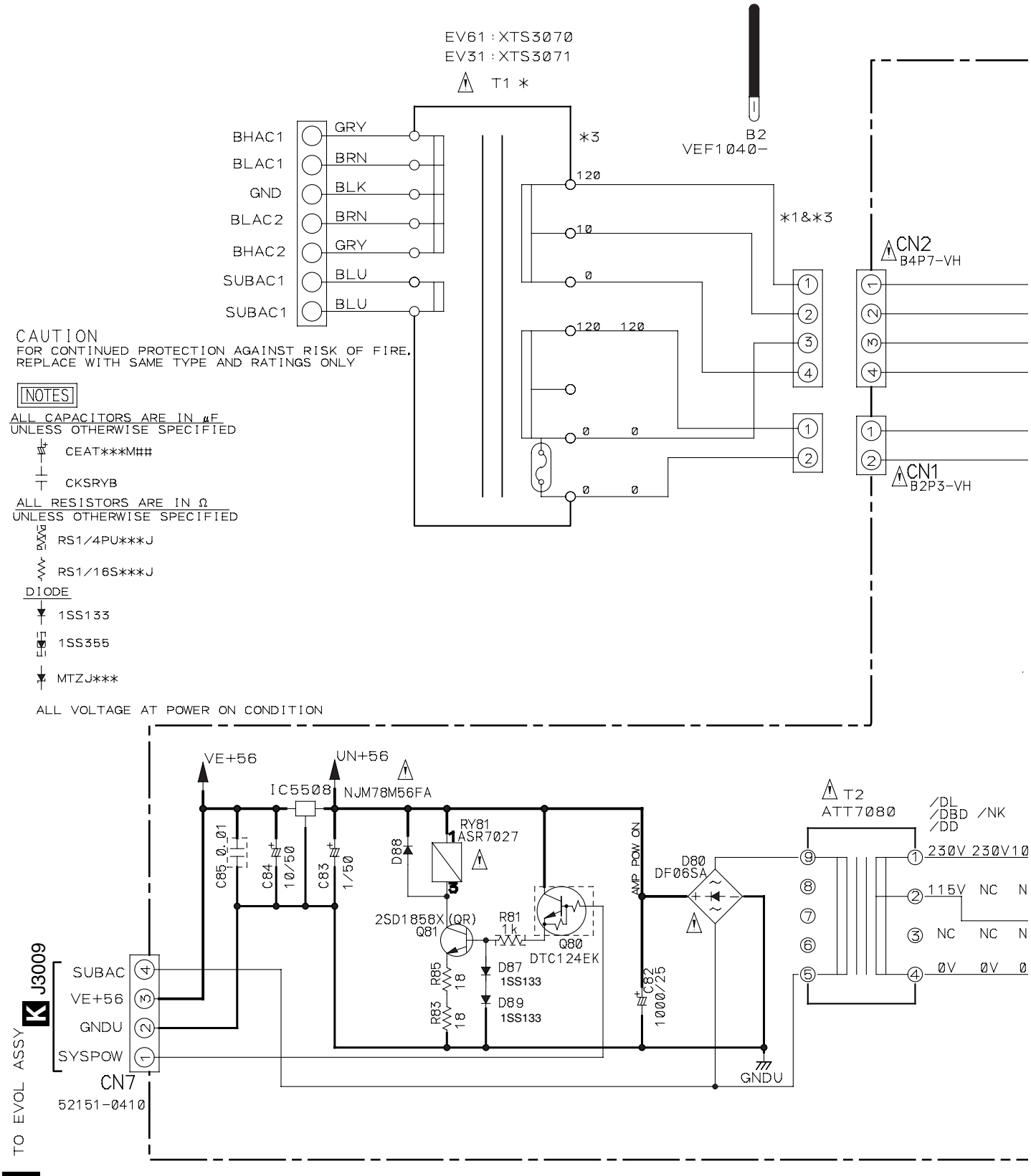
3.18 SP-TERMINAL and TRADE ASSYS



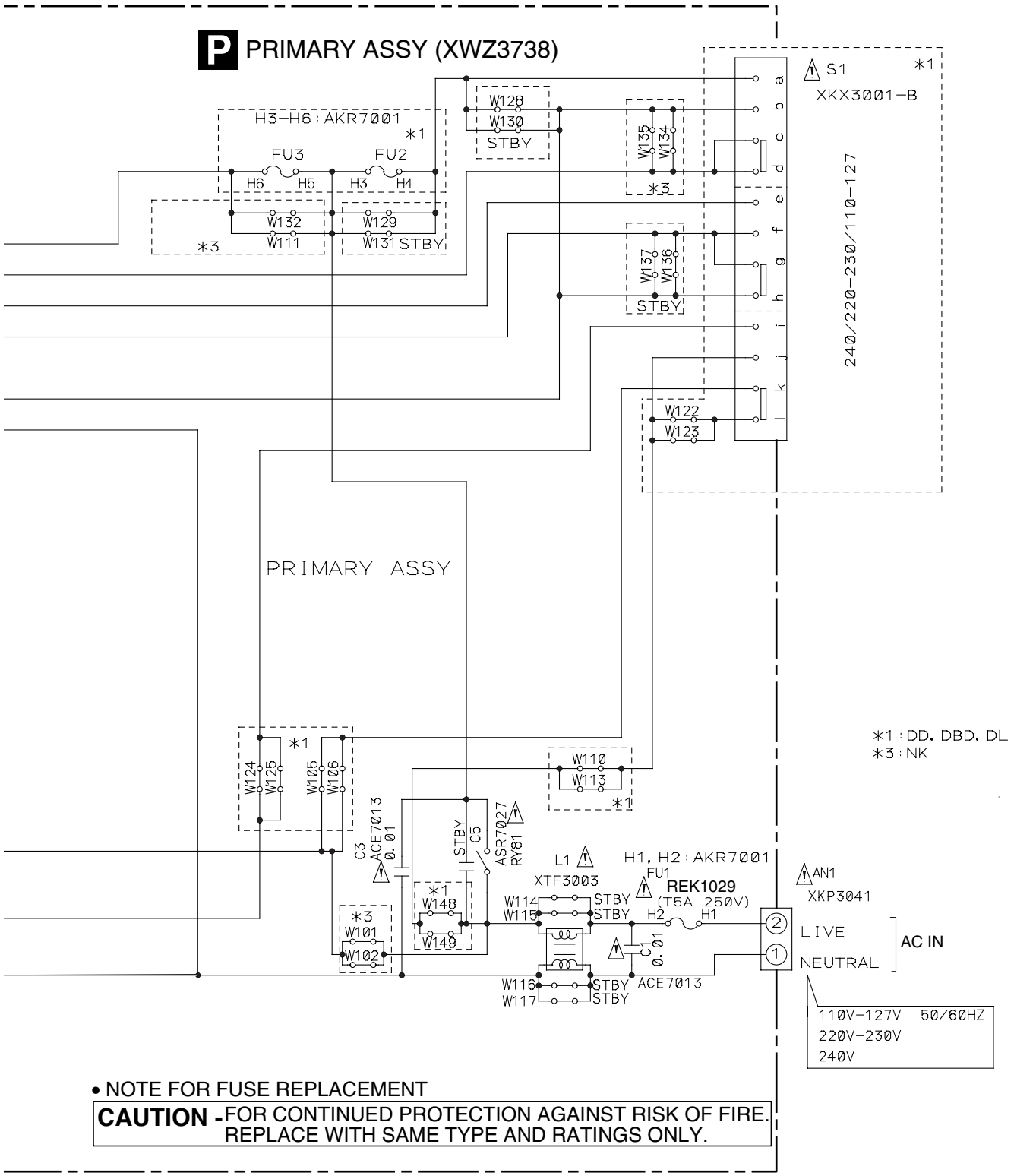
L TRADE ASSY
(XWZ3740 / XV-EV61)
(XWZ3745 / XV-EV31)



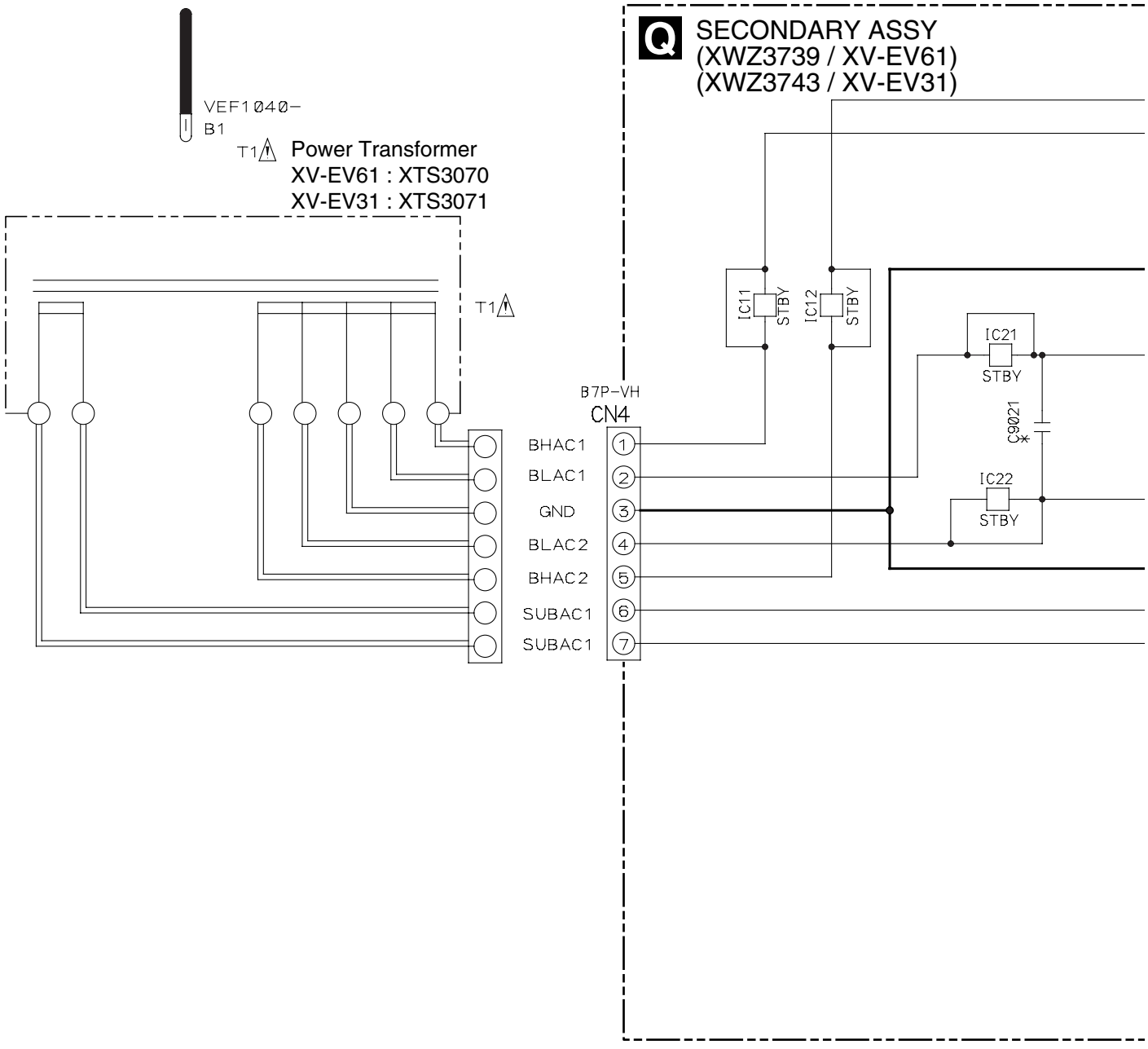
3.19 PRIMARY ASSY



	T1	FU1	FU2, FU3
EV61	XTS3070	AEK1061 (5A) 250V	AEK1058 (2. 5A) 250V
EV31	XTS3071	AEK1061 (5A)	AEK1059 (3. 15A) 250V



3.20 SECONDARY ASSY



NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED

YF : CKSRYF
(OTHER : CKSRYB)

M : CQMBA

AL : CEAL
(OTHER : CEAT***M##)

ALL RESISTORS ARE IN Ω

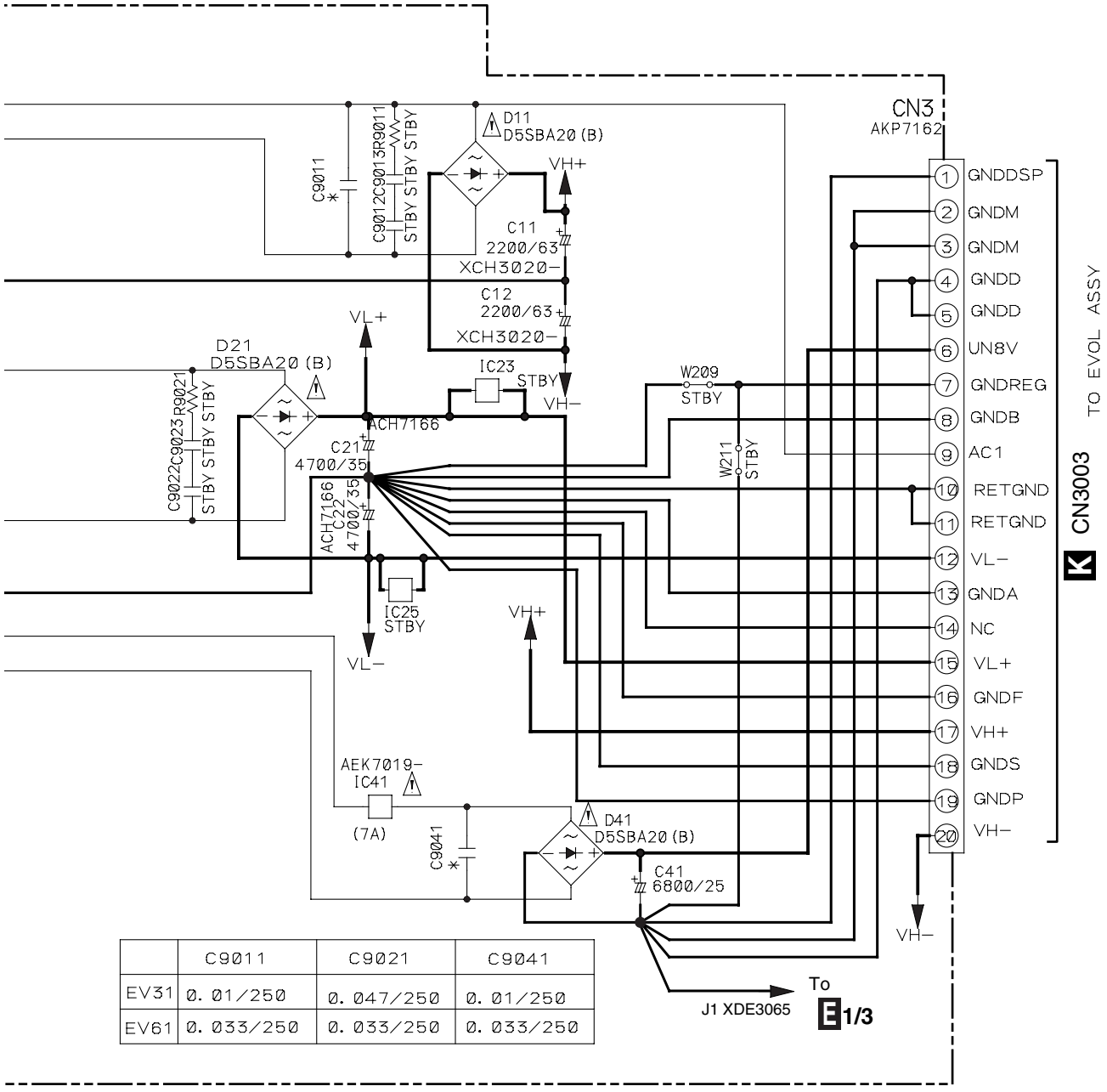
1/16W

1/4WPU

DIODE

1SS133

1SS355



	C9011	C9021	C9041
EV31	0.01/250	0.047/250	0.01/250
EV61	0.033/250	0.033/250	0.033/250

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491005 FOR IC31 AND IC41 MFD, BY LITTELFUSE INC.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491007 FOR IC21 AND IC22 MFD, BY LITTELFUSE INC.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491010 FOR IC11 AND IC12 MFD, BY LITTELFUSE INC.

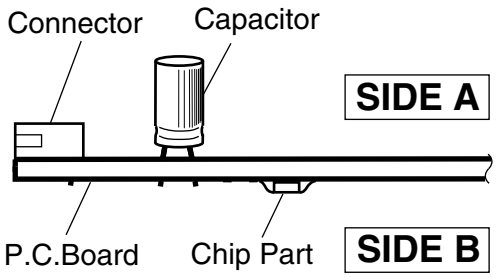
4. PCB CONNECTION DIAGRAM
4.1 LOAB ASSY

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

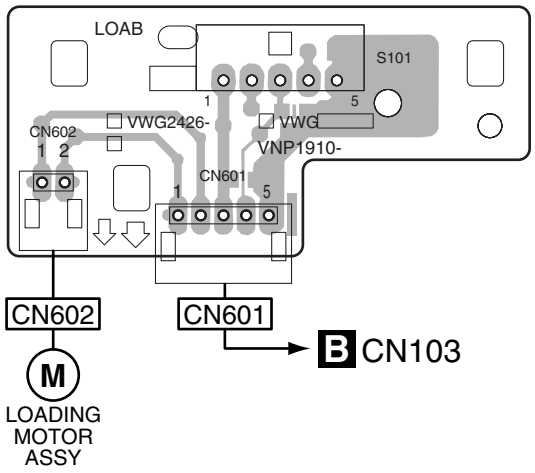
3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

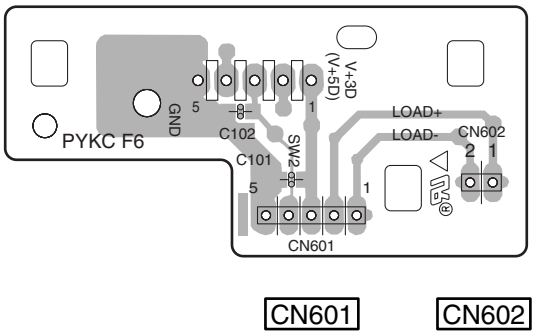


SIDE A

SIDE B

A LOAB ASSY
(VNP1910-A)





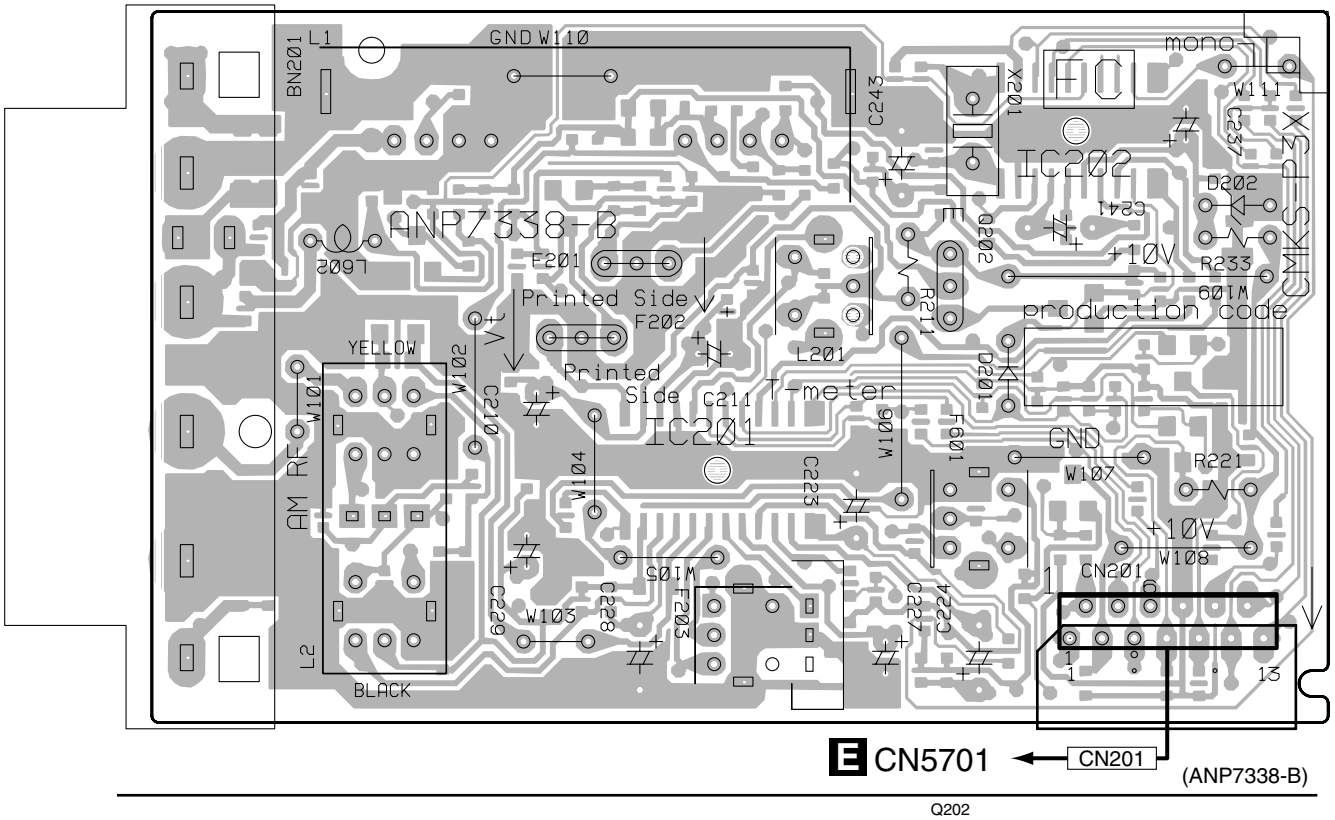
A

A

4.2 FM/AM TUNER MODULE

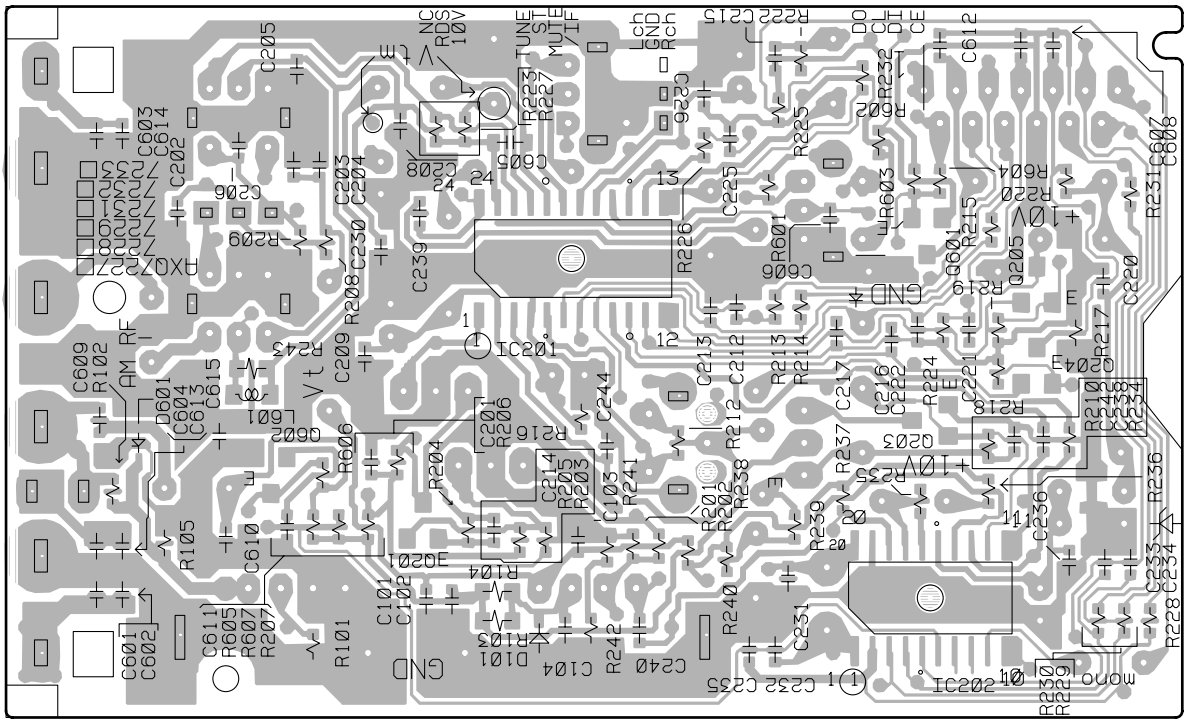
SIDE A

C FM/AM TUNER MODULE **SIDE A**



Q202

C FM/AM TUNER MODULE **SIDE B**

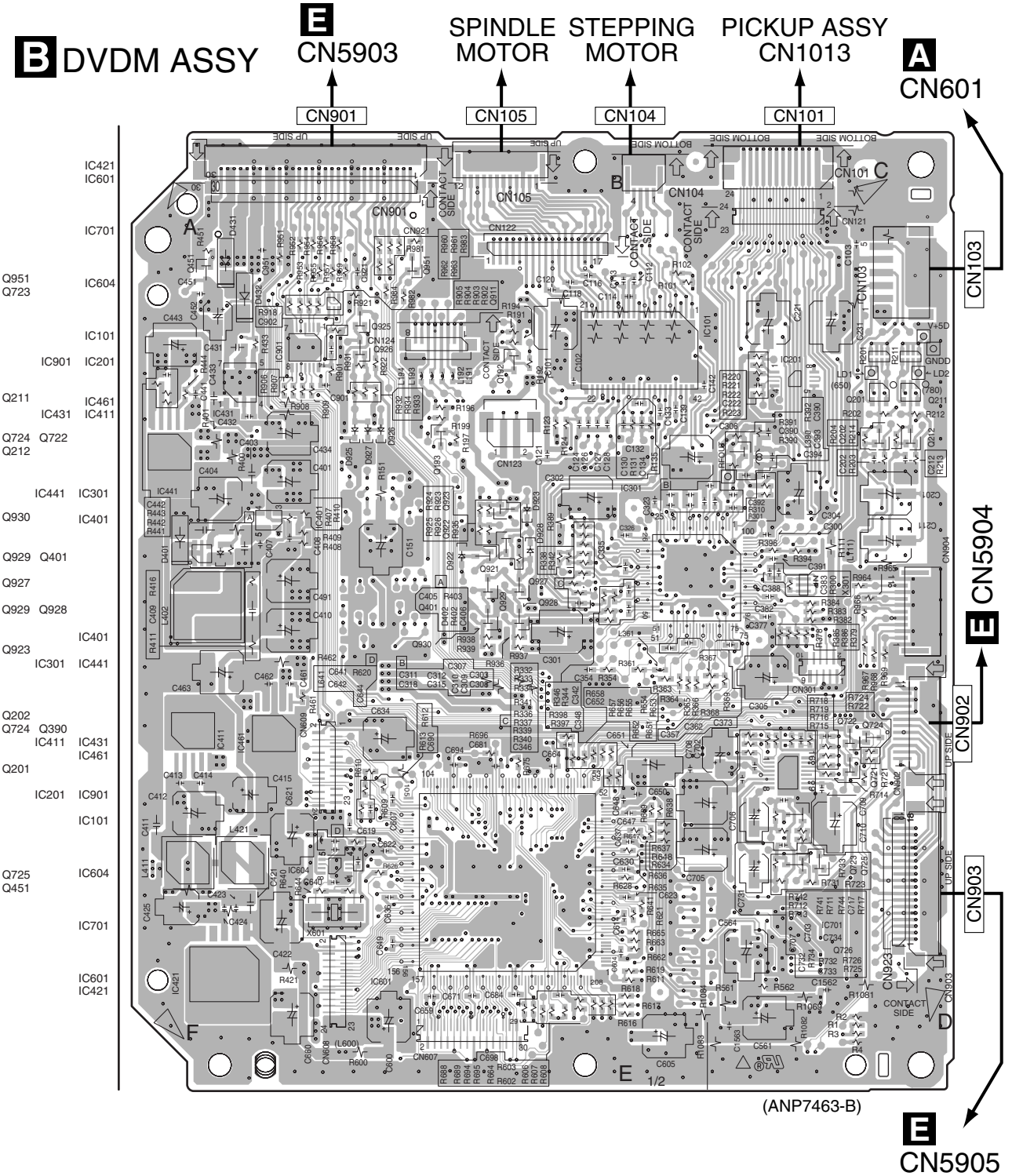


Q201 IC201 Q203 IC202 Q205 Q204

4.3 DVDM ASSY

SIDE A

SIDE A

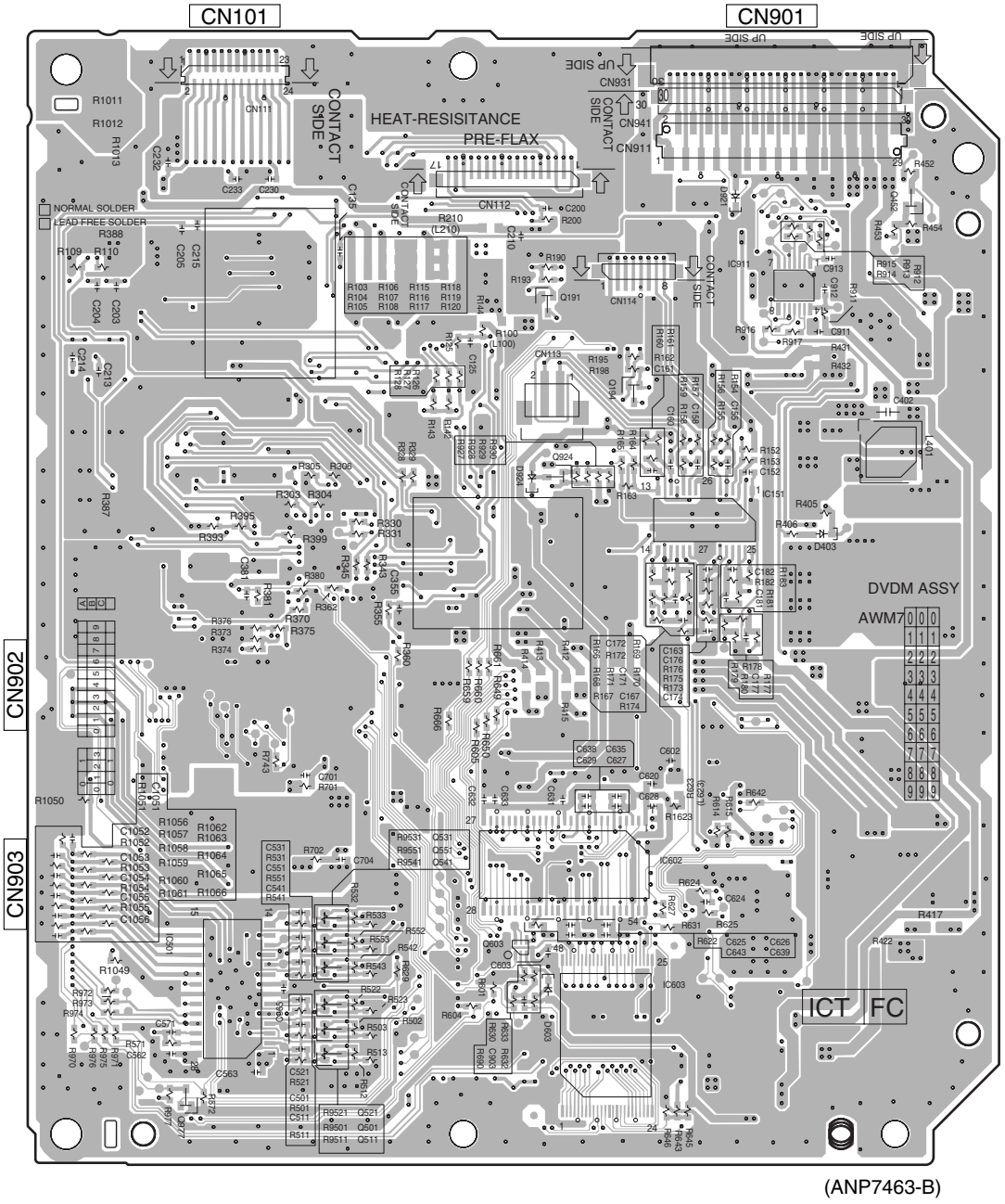


SIDE B

SIDE B

A

B DVDM ASSY



(ANP7463-B)

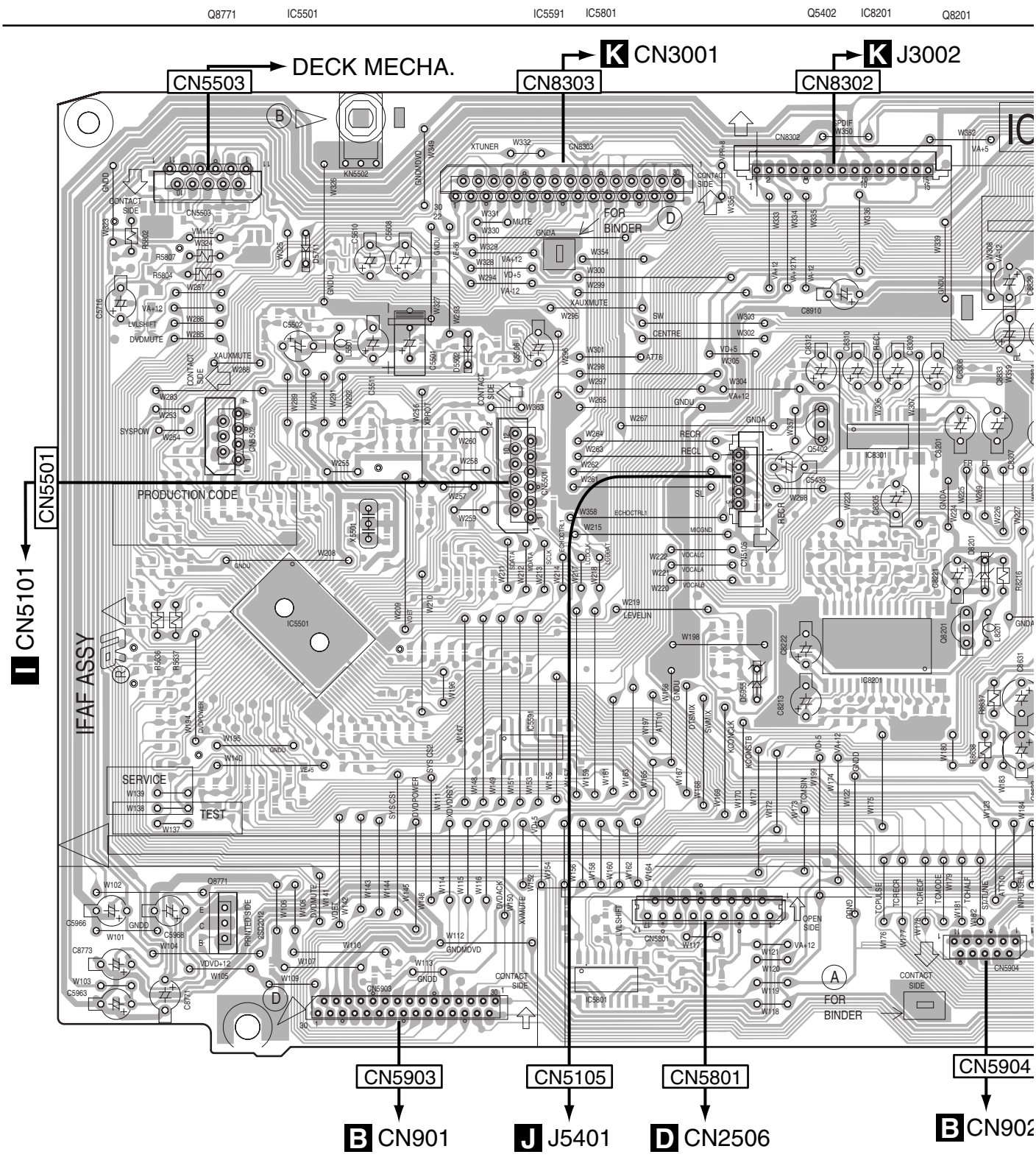
B

B

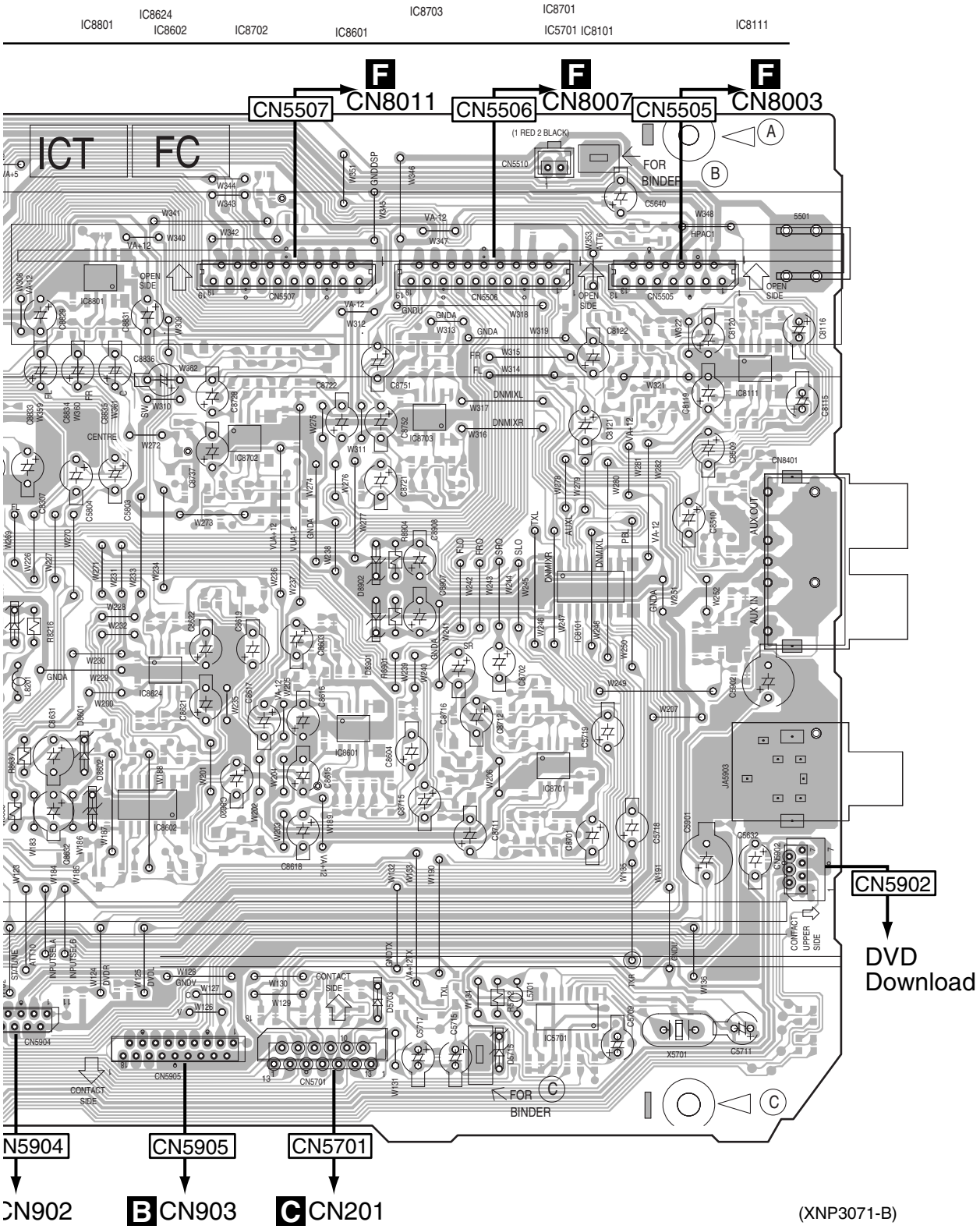
4.4 IF/AF ASSY

SIDE A

E IF/AF ASSY

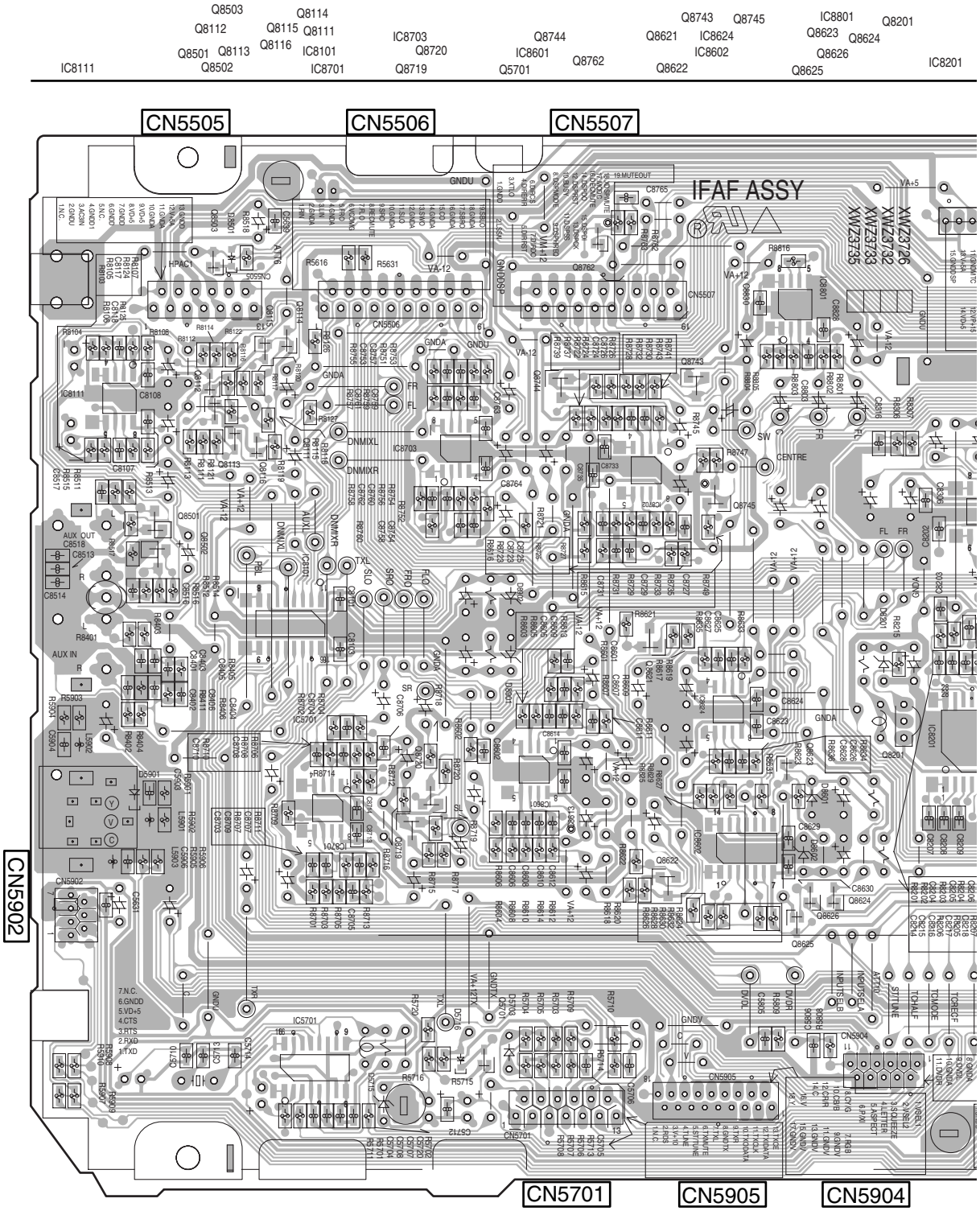


SIDE A

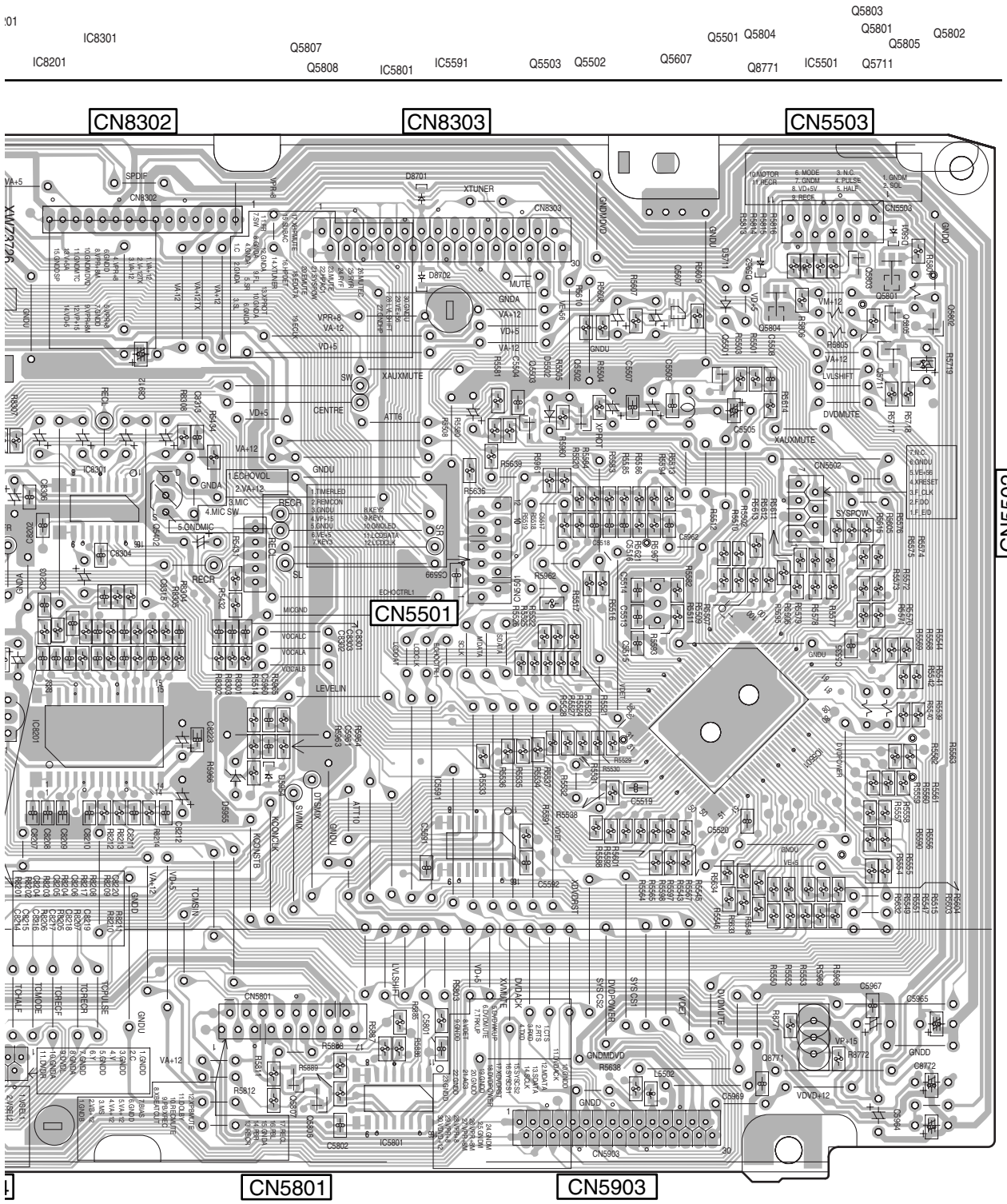

IC8801
IC8624
IC8602
IC8702
IC8601
IC8703
IC8701
IC5701 IC8101
IC8111
CN5507
CN8011
CN5506
CN8007
CN5505
CN8003
ICT
FC
(1 RED 2 BLACK)
FOR BINDER
OPEN SIDE
CONTACT SIDE
CN8401
AUX OUT
AUX IN
CN5902
DVD Download
CONTACT UPPER SIDE
CN5904
CN5905
CN5701
CN902
B CN903
C CN201
(XNP3071-B)

SIDE B

E IF/AF ASSY



SIDE B



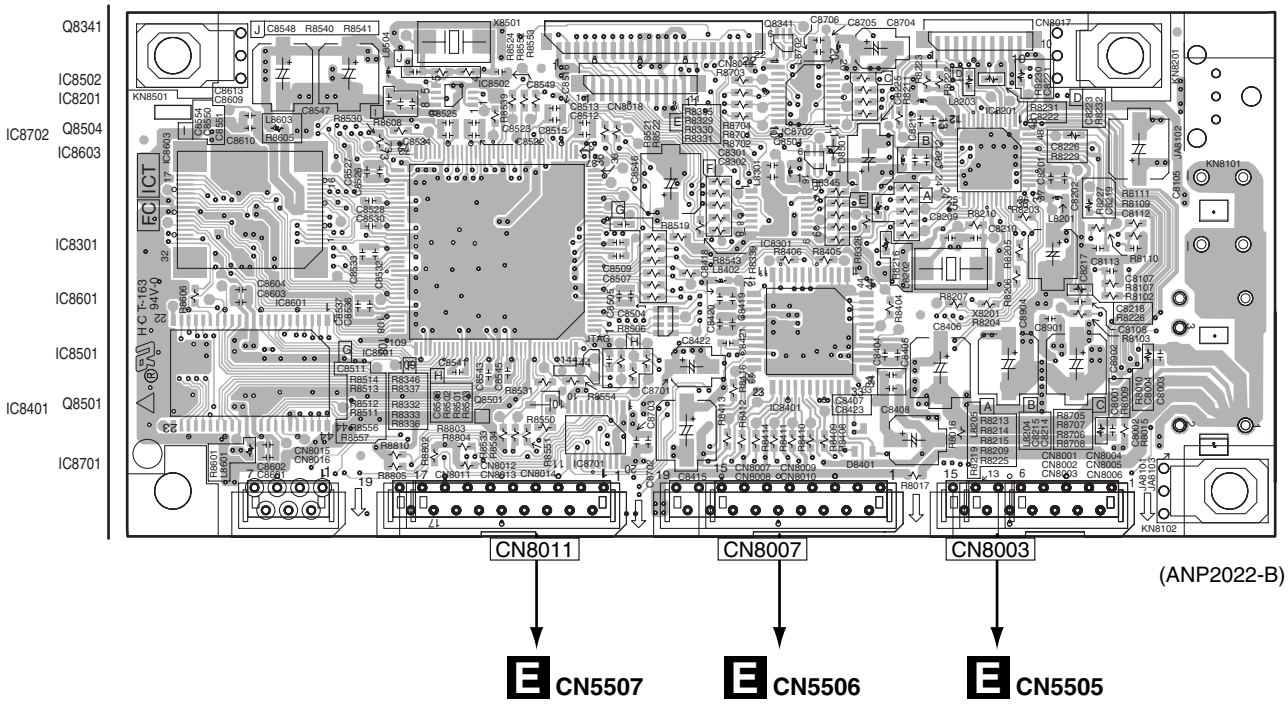
(XNP3071-B)

4.5 DSP ASSY (XV-EV61 Only)

SIDE A

SIDE A

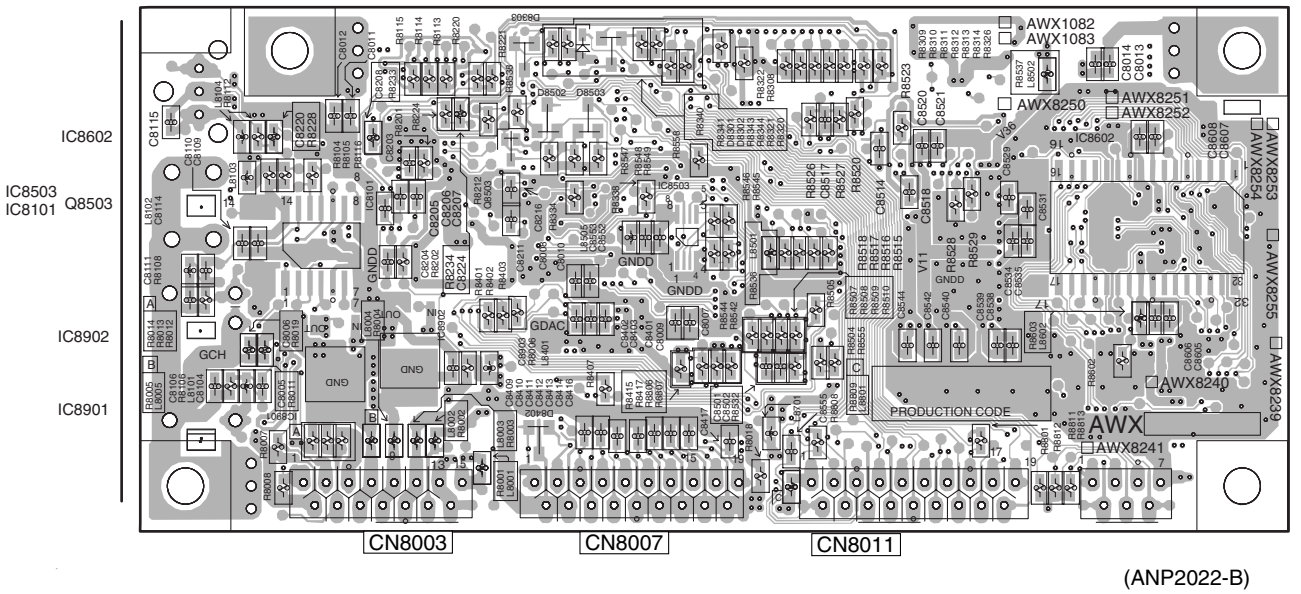
F DSP ASSY(XV-EV61_Only)



(ANP2022-B)

E CN5507 **E** CN5506 **E** CN5505

SIDE B



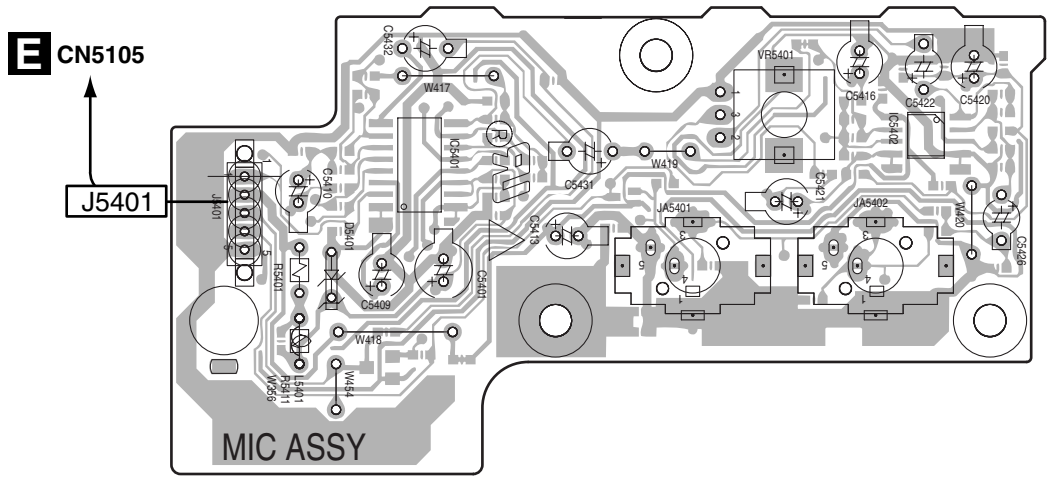
(ANP2022-B)

4.6 MIC ASSY

SIDE A

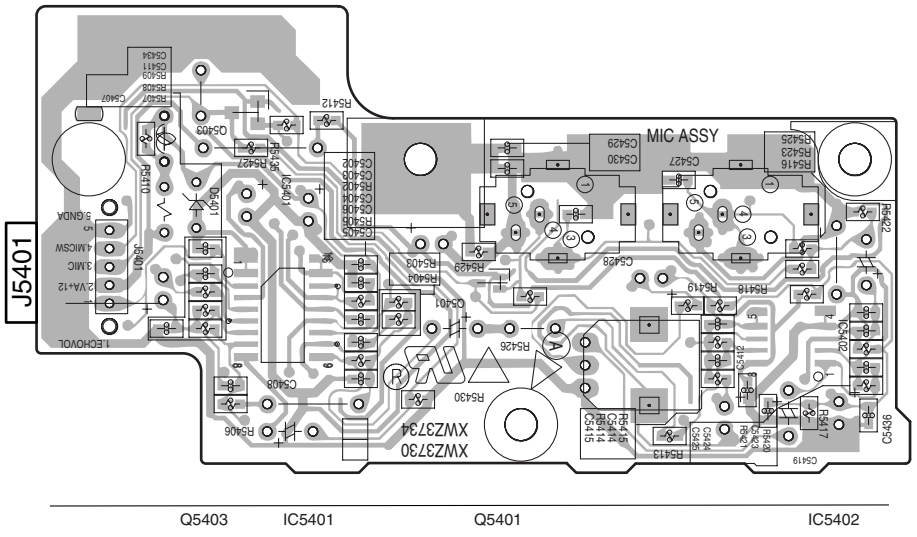
SIDE A

J MIC ASSY



(XNP3071-B)

SIDE B

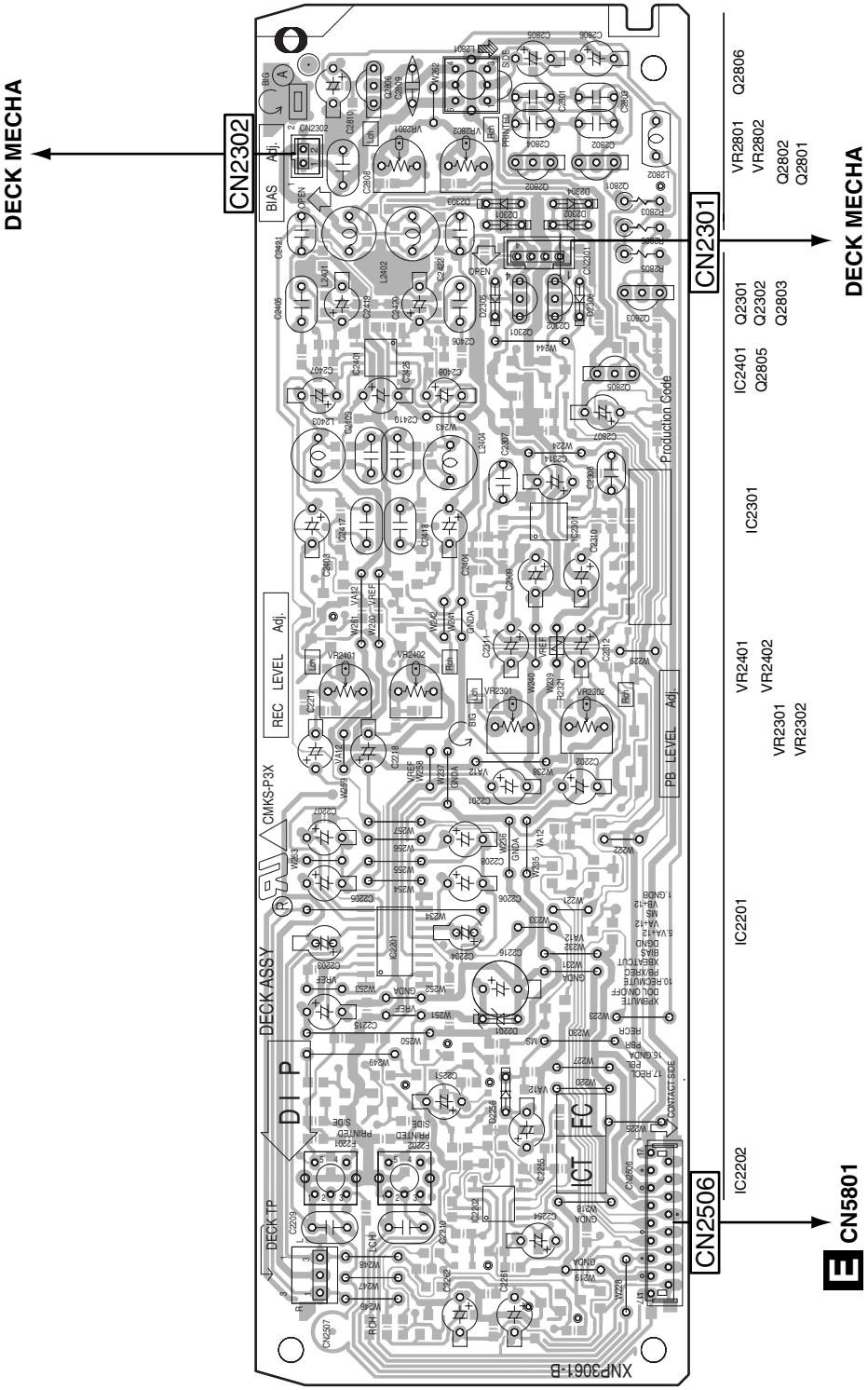


(XNP3071-B)

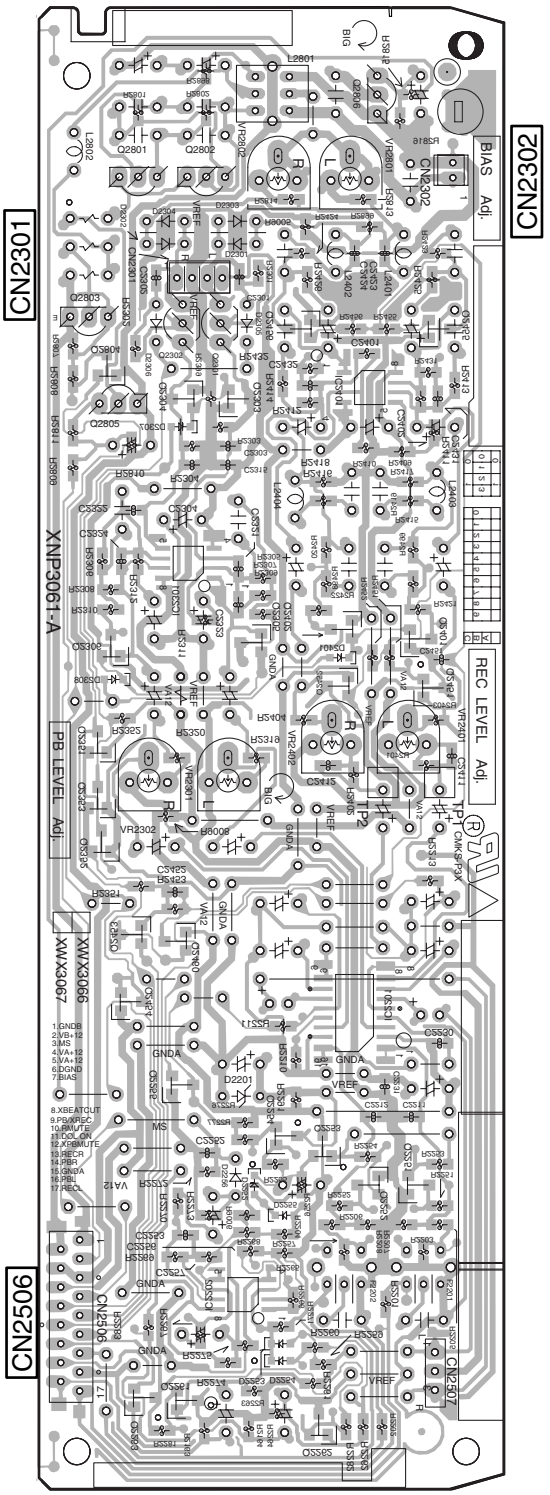
4.7 DECK ASSY

SIDE A

D DECK ASSY



(XNP3061-B)

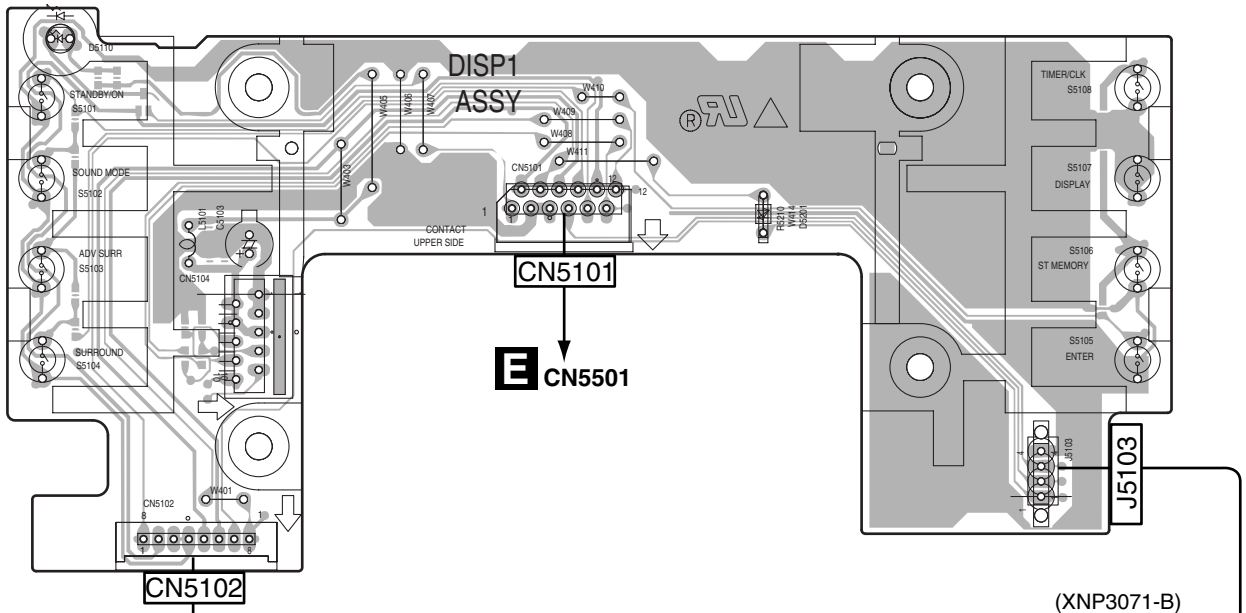

CN2301
CN2302
CN2506
XNP3061-A
BIAS Adj.
REC LEVEL Adj.
PB LEVEL Adj.
XWX3066
XWX3067
Q2806 VR2801 Q2803 Q2804 Q2805 IC2201 Q2306 Q2452 Q2351 Q2353 Q2352 Q2453 Q2454 Q2252
VR2801 Q2302 Q2304 Q2305 Q2451 VR2402 VR2401 Q2460 IC2201 Q2254
Q2802 Q2301 Q2303 Q2302 Q2401 VR2401 VR2301 Q2253
Q2801 Q2456 IC2401 Q2401 VR2302 Q2252
Q2455 Q2251
IC2202 Q2263
Q2201
Q2262

(XNP3061-B)

4.8 DISP1, DISP2 and DISP3 ASSYS

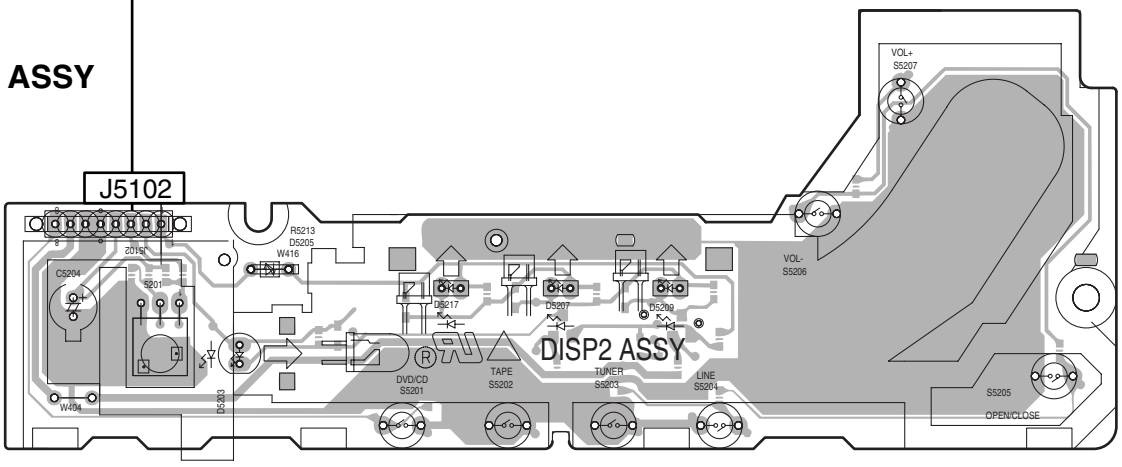
SIDE A

I DISP1 ASSY



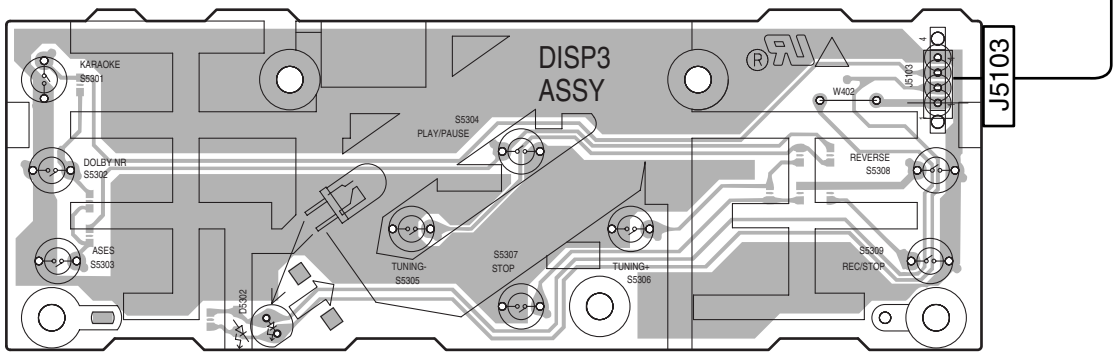
(XNP3071-B)

H DISP2 ASSY



(XNP3071-B)

G DISP3 ASSY

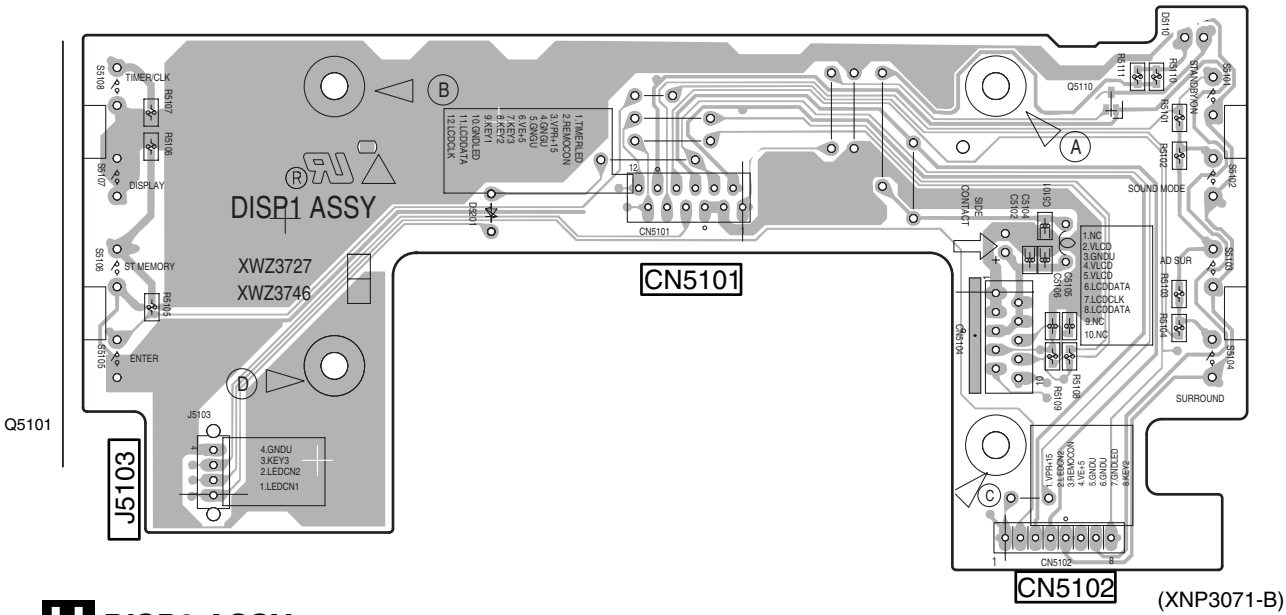


(XNP3071-B)

G H I

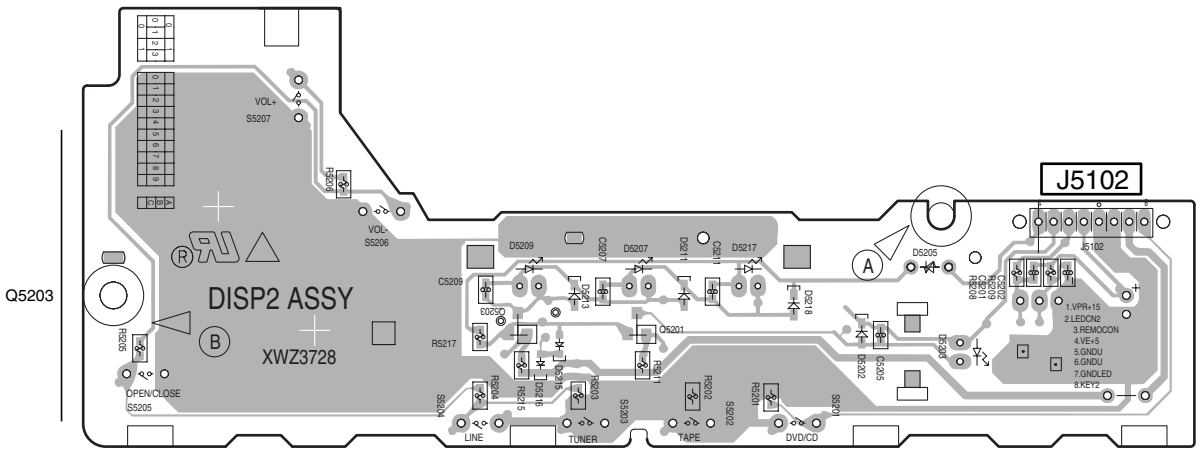
SIDE B

I DISP1 ASSY



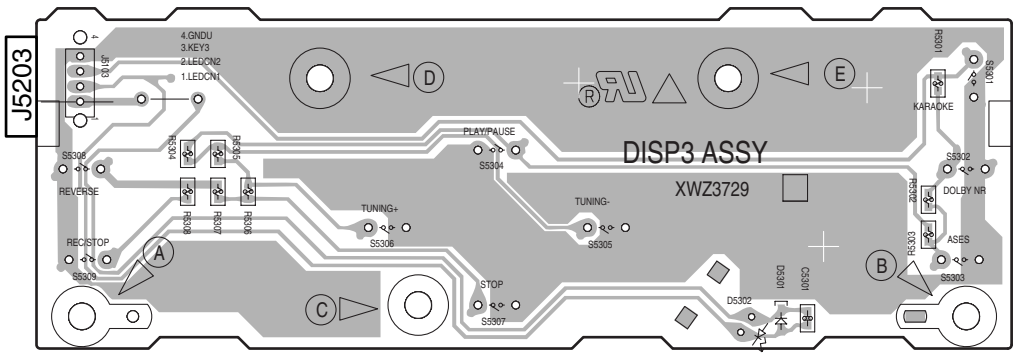
(XNP3071-B)

H DISP2 ASSY



(XNP3071-B)

G DISP3ASSY



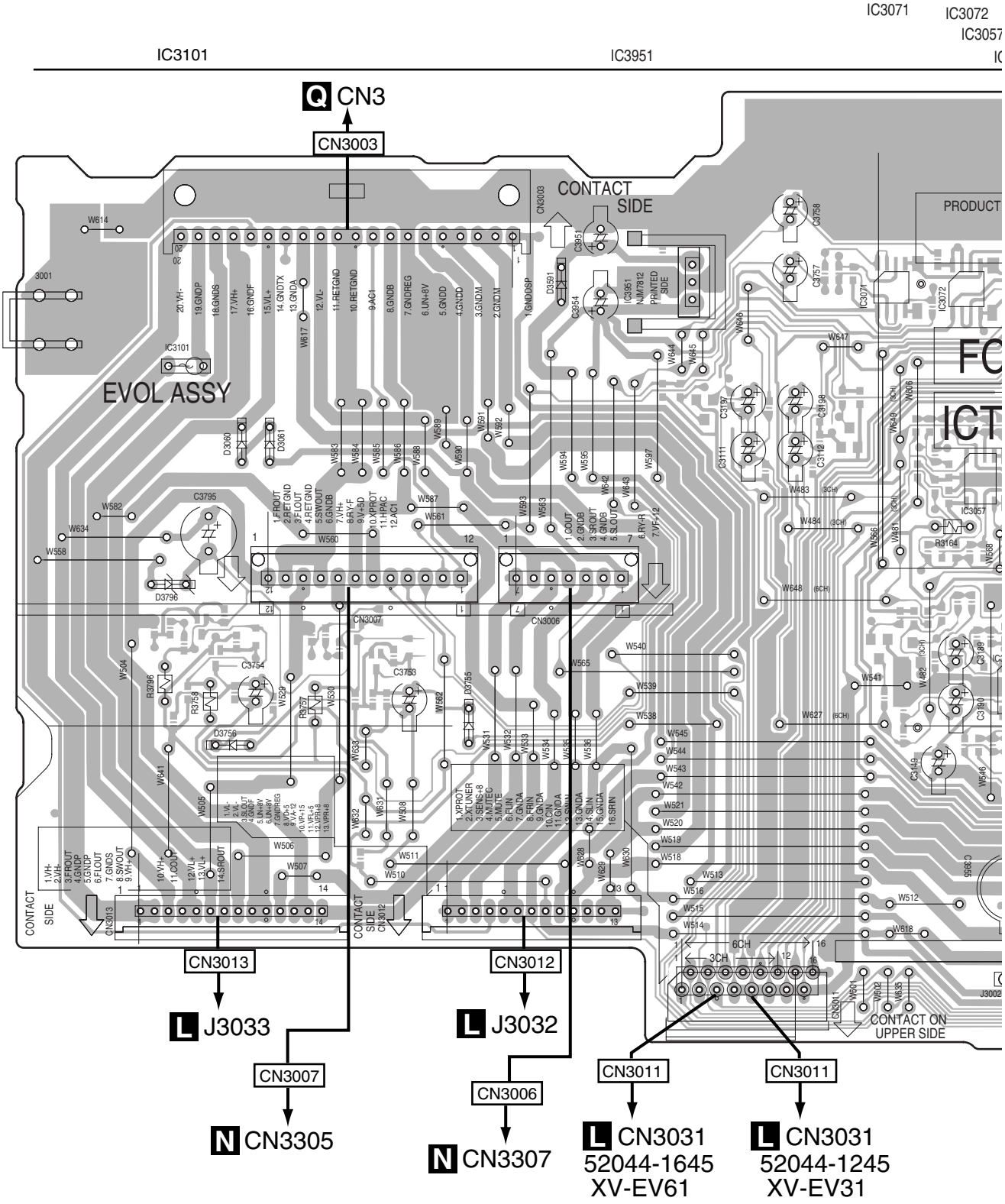
(XNP3071-B)

G H I

4.9 EVOL ASSY

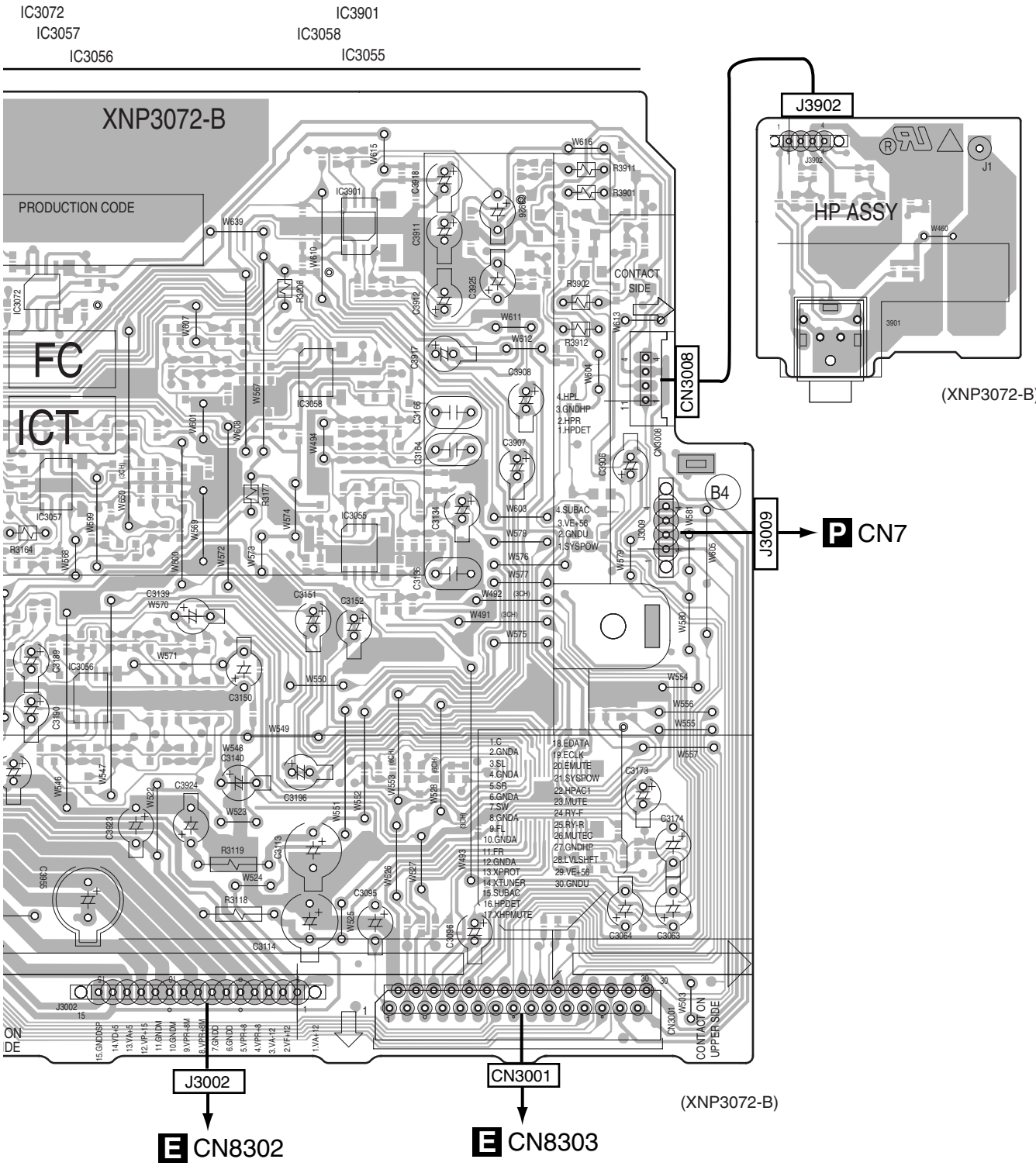
SIDE A

K EVOL ASSY



SIDE A

O HP ASSY



O K

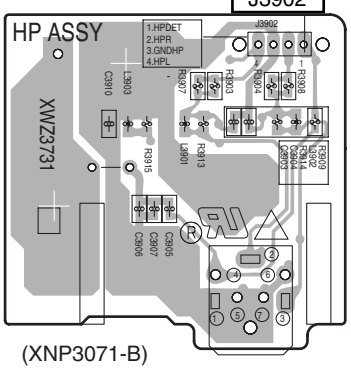
SIDE B

K EVOL ASSY

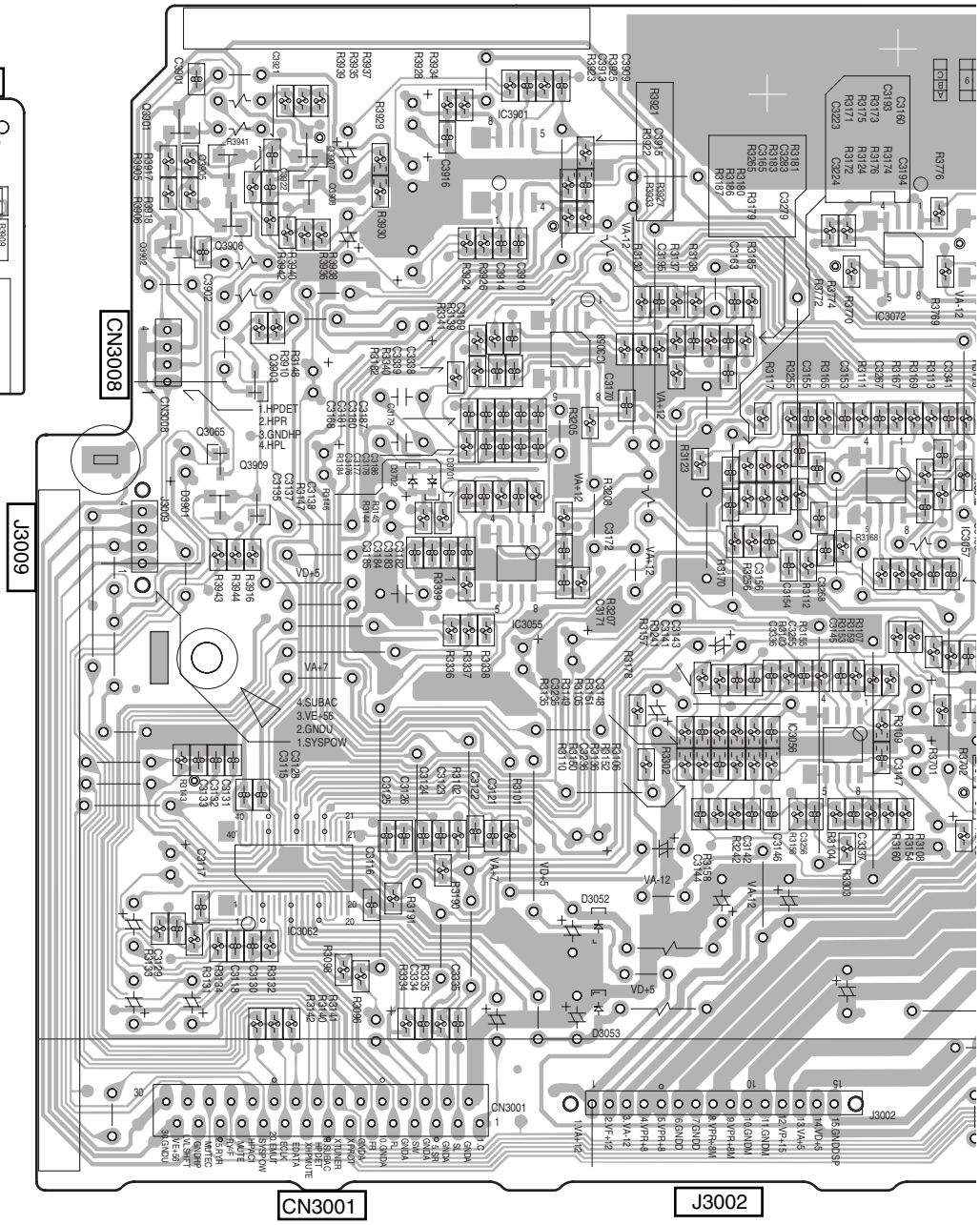
Q3905 IC3062 IC3072
Q3901 Q3906 Q3907 IC3055
Q3902 Q3903 IC3056
Q3065 Q3909 Q3908 IC3901 IC3058 IC

O H.P ASSY

J3902

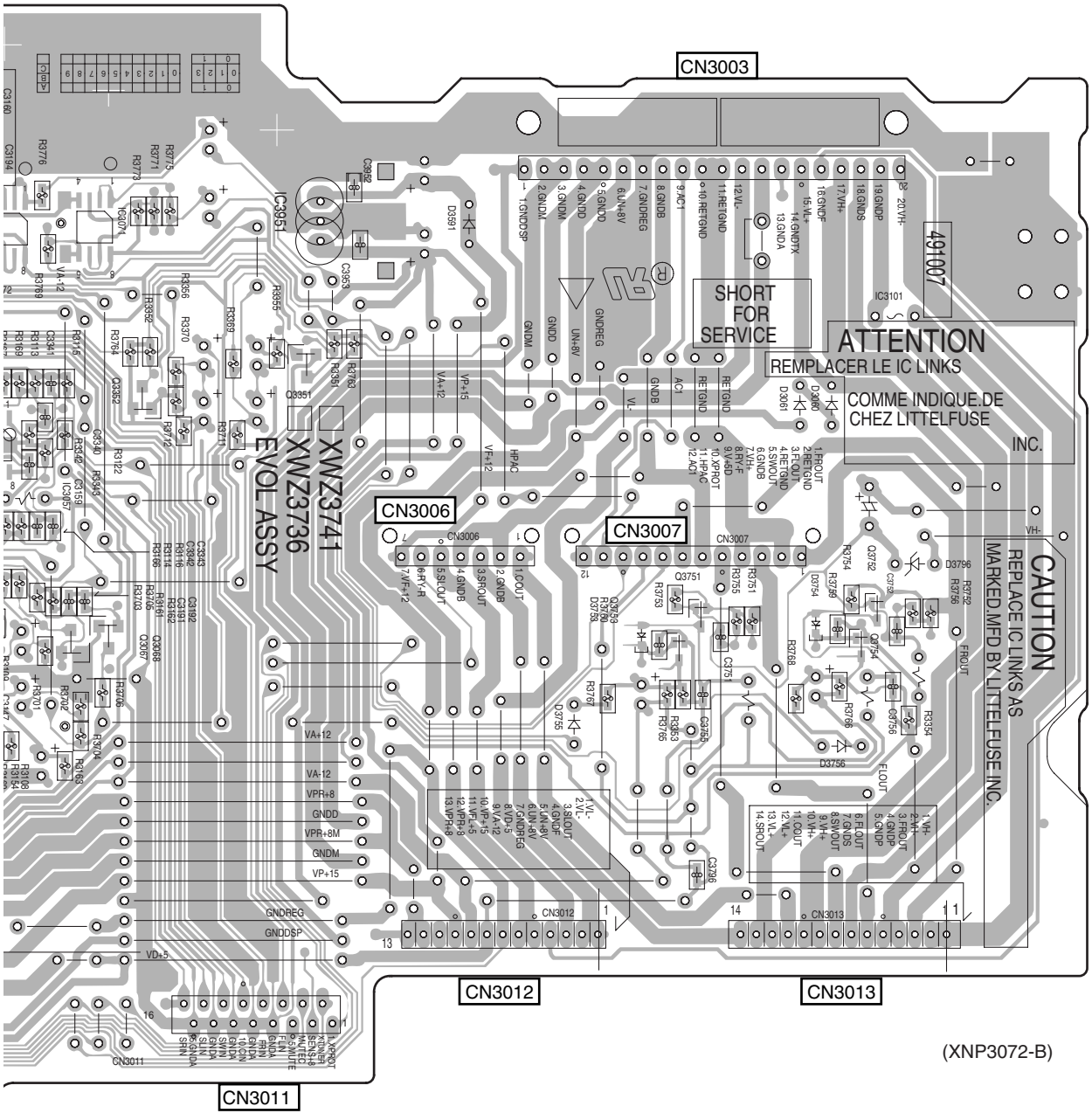


(XNP3071-B)



SIDE B

IC3071
Q3352
IC3057 Q3067
IC3951
Q3351
Q3753 Q3751
Q3752
Q3754



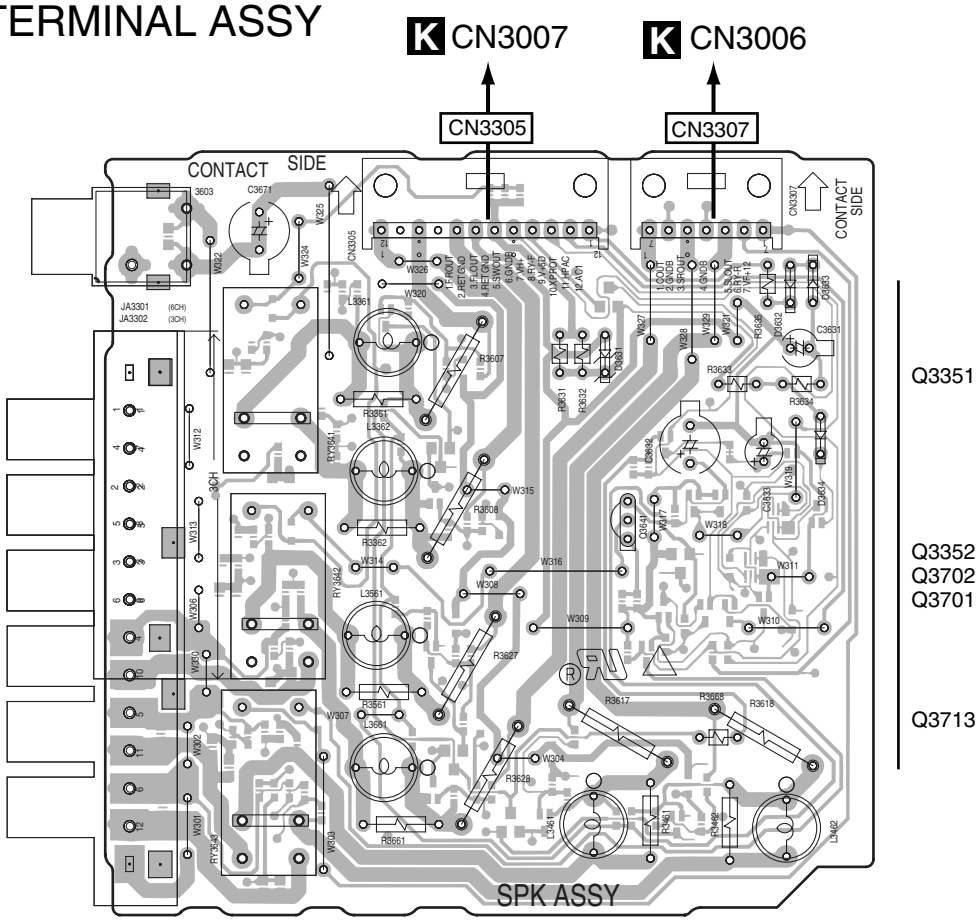
(XNP3072-B)

4.10 SP-TERMINAL and TRADE ASSYS

SIDE A

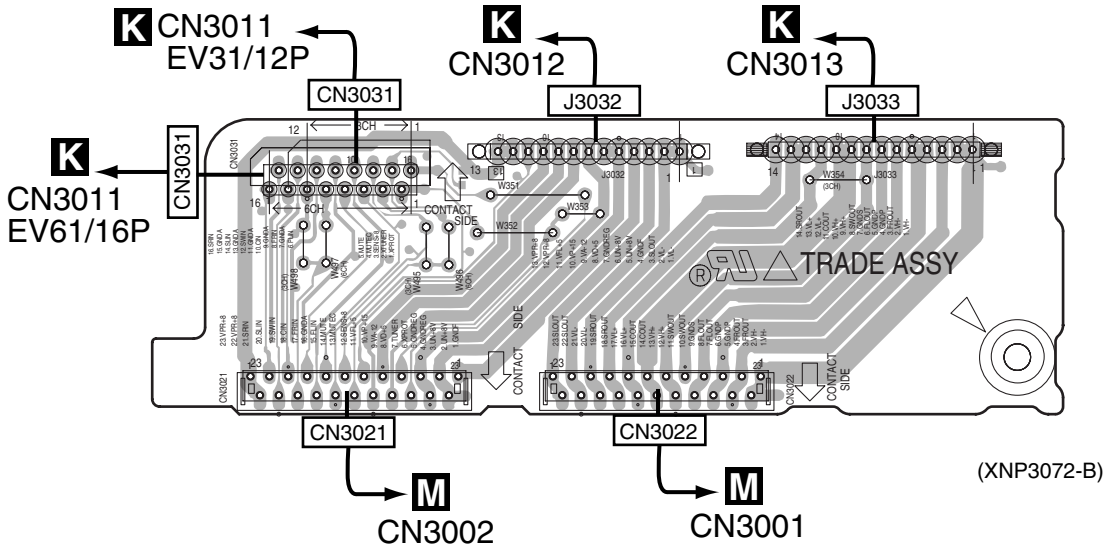
SIDE A

N SP-TERMINAL ASSY



(XNP3072-B)

L TRADE ASSY



(XNP3072-B)

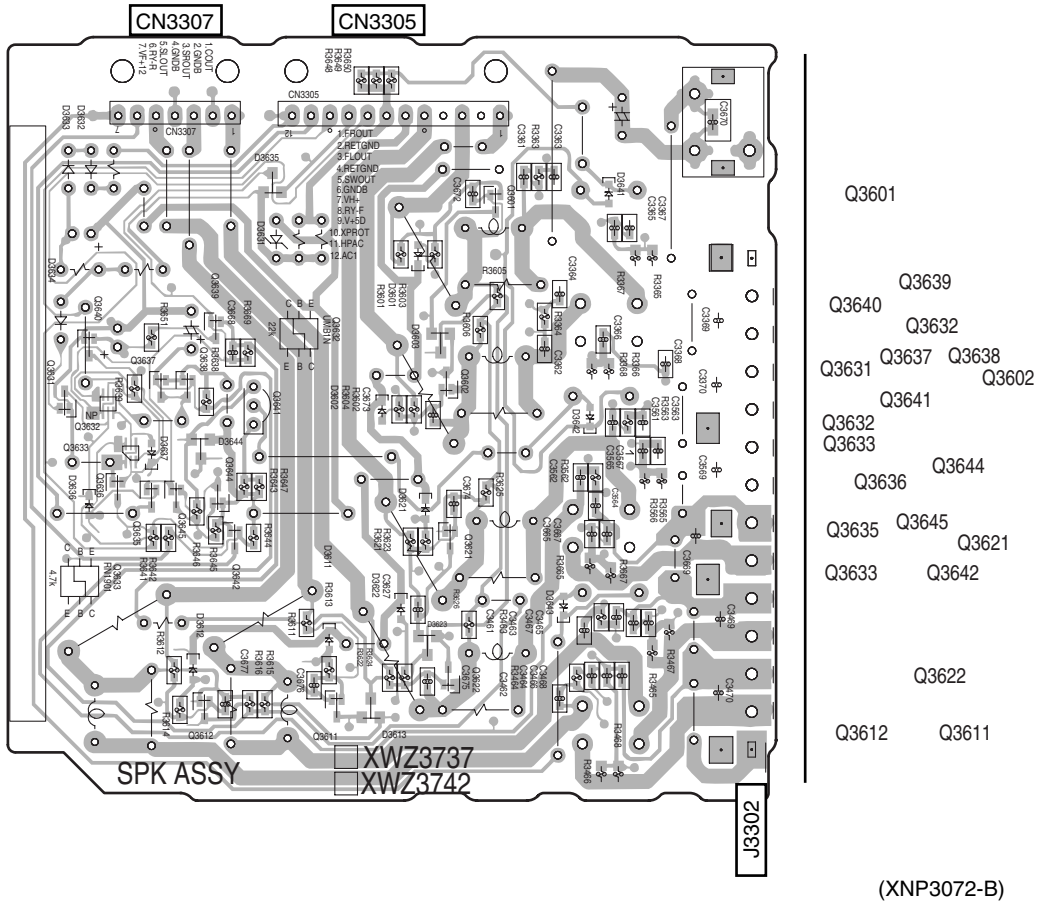
L N

L N

SIDE B

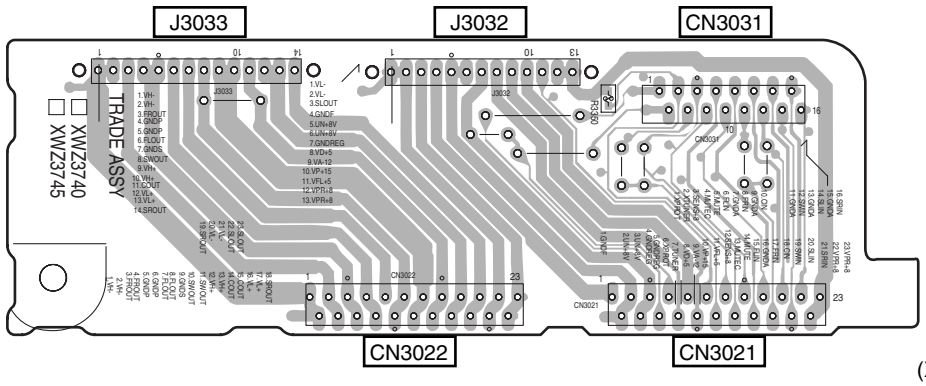
SIDE B

N SP-TERMINAL ASSY



(XNP3072-B)

L TRADE ASSY



(XNP3072-B)

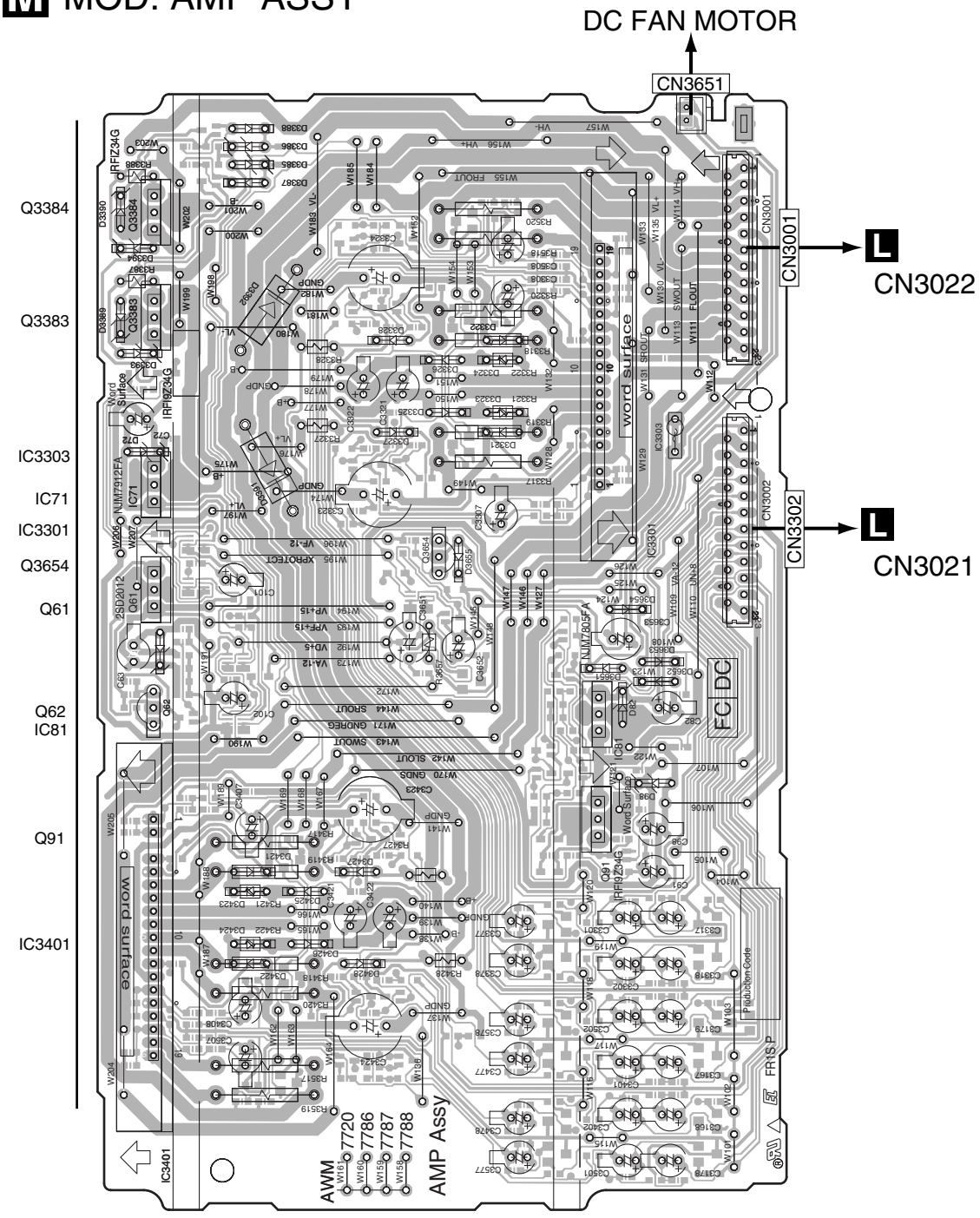
N L

N L

4.11 MOD. AMP ASSY

SIDE A **SIDE A**

M MOD. AMP ASSY

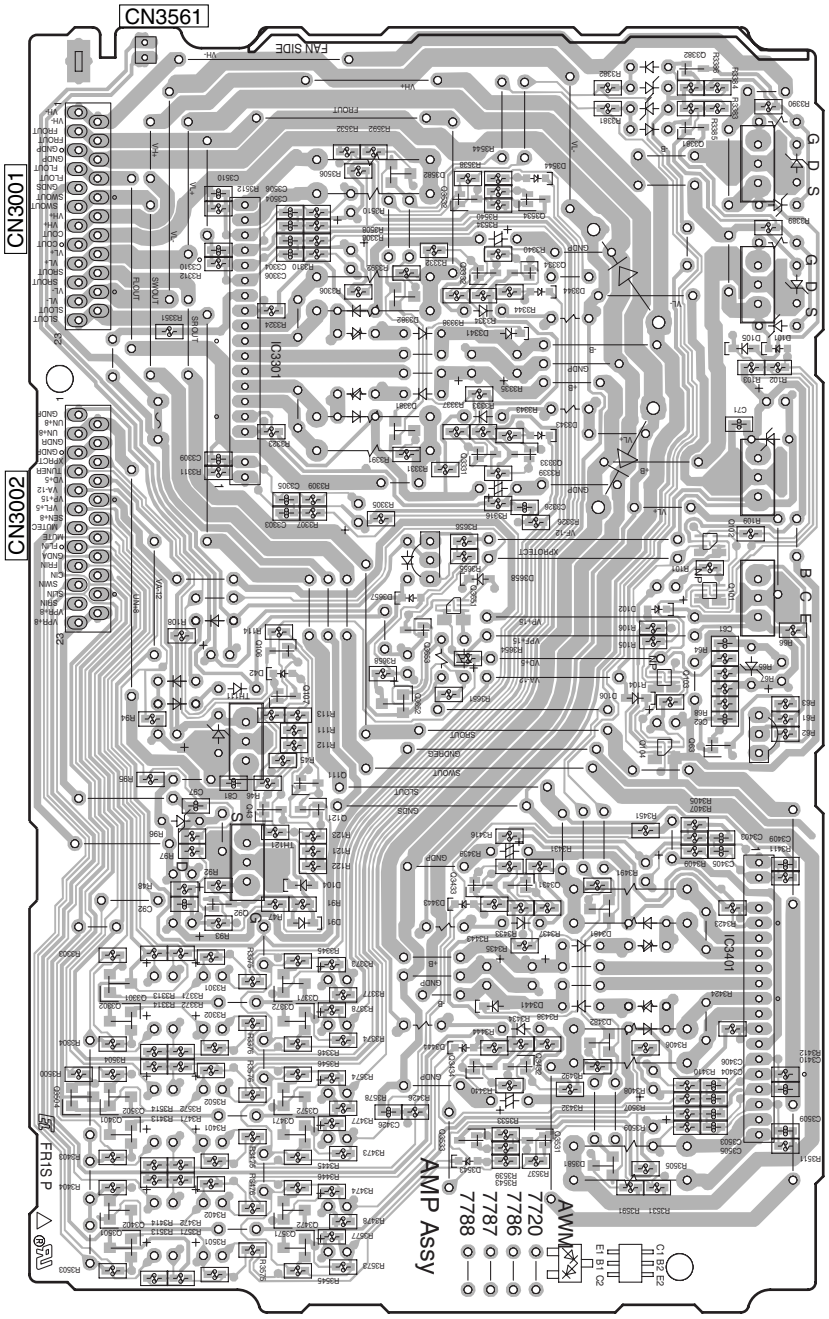


(ANP7461-A)

SIDE B

SIDE B

M MOD. AMP ASSY



Q3382

Q3381

Q3532 Q3534

Q3332 Q3334

IC3301

Q3331 Q3333

Q102

Q3651

Q101

Q3653

Q106 Q103

Q107 Q3652

Q104 Q63

Q111

Q43 Q121

Q3433 Q3431

Q92 Q92

IC3401

Q3301 Q3371

Q3302 Q3372

Q3434 Q3432

Q3504 Q3502 Q3572

Q3401 Q3471

Q3533 Q3531

Q3402 Q3472

Q3501 Q3571

(ANP7461-A)

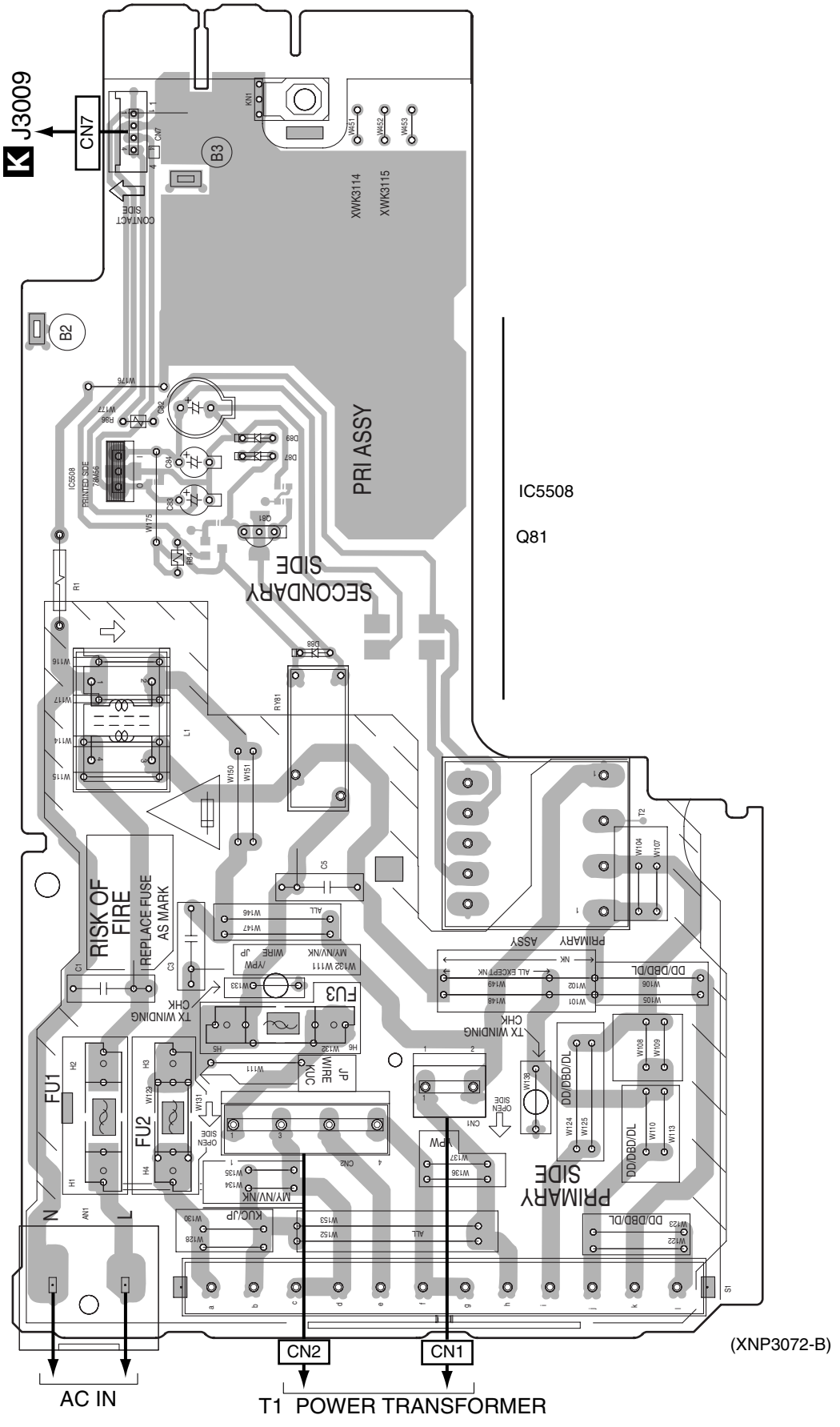
5 6 7 8

4.12 PRIMARY ASSY

SIDE A

SIDE A

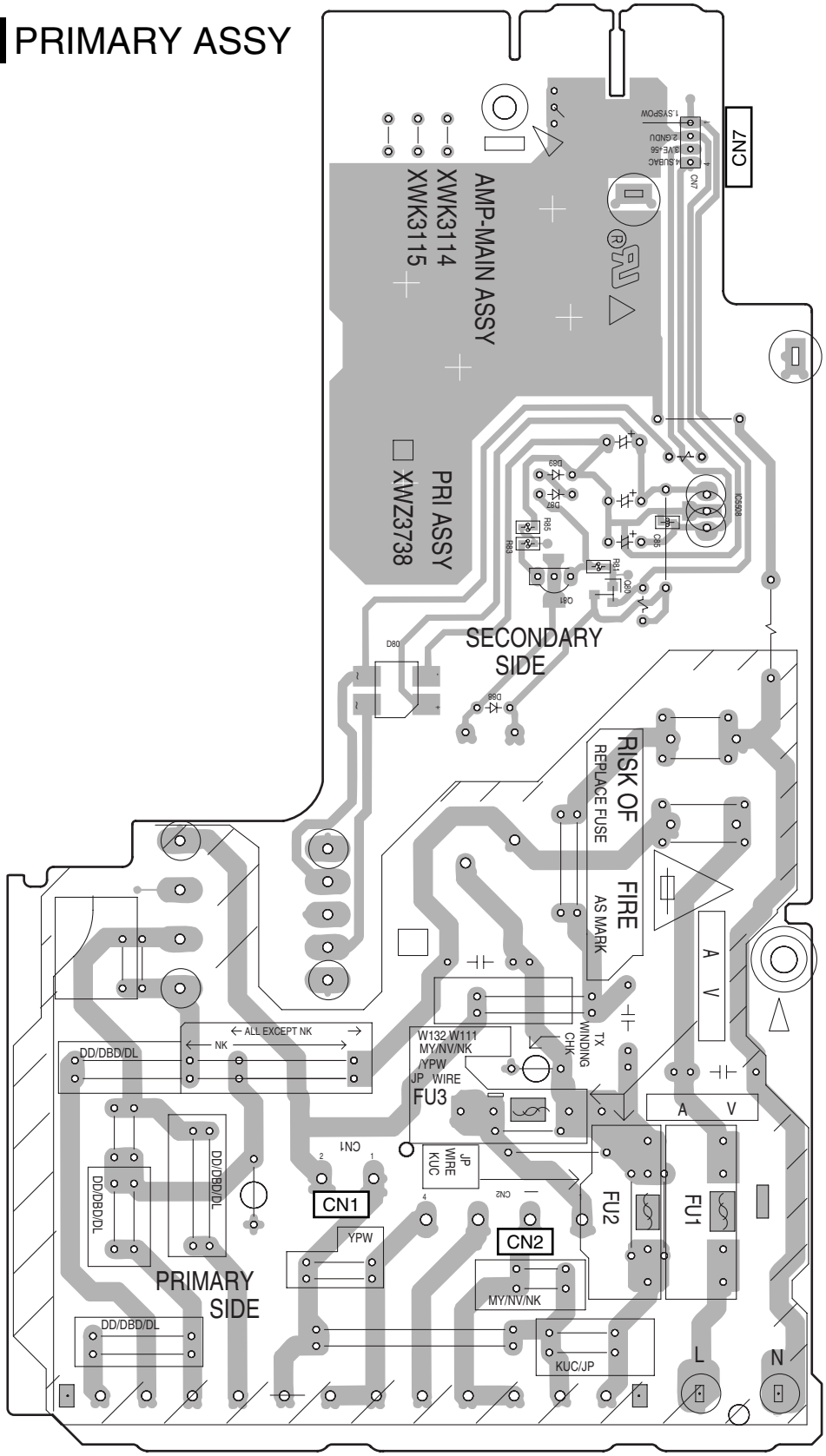
P PRIMARY ASSY



SIDE B

SIDE B

P PRIMARY ASSY



(XNP3072-B)

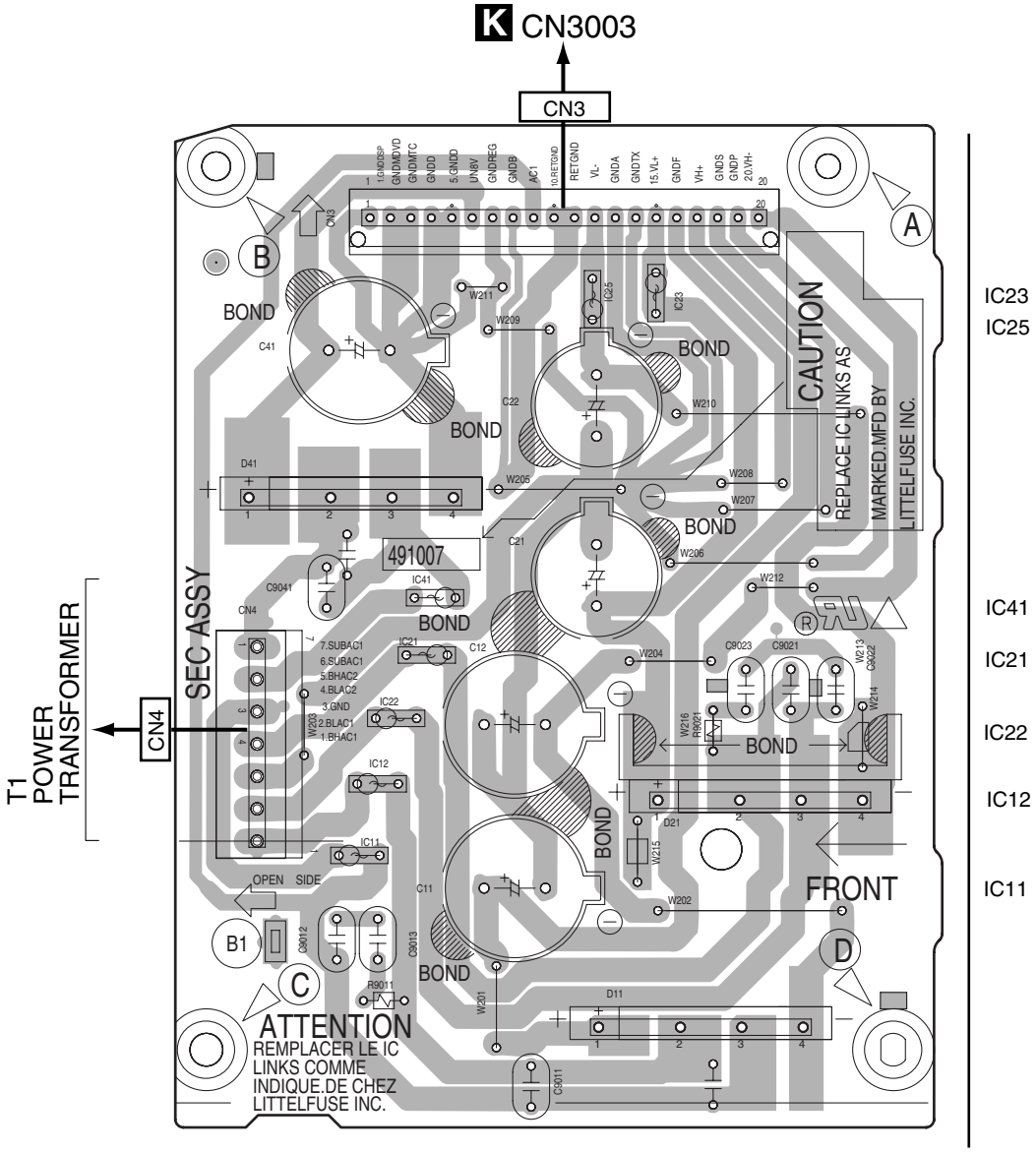
P

P

4.13 SECONDARY

SIDE A **SIDE A**

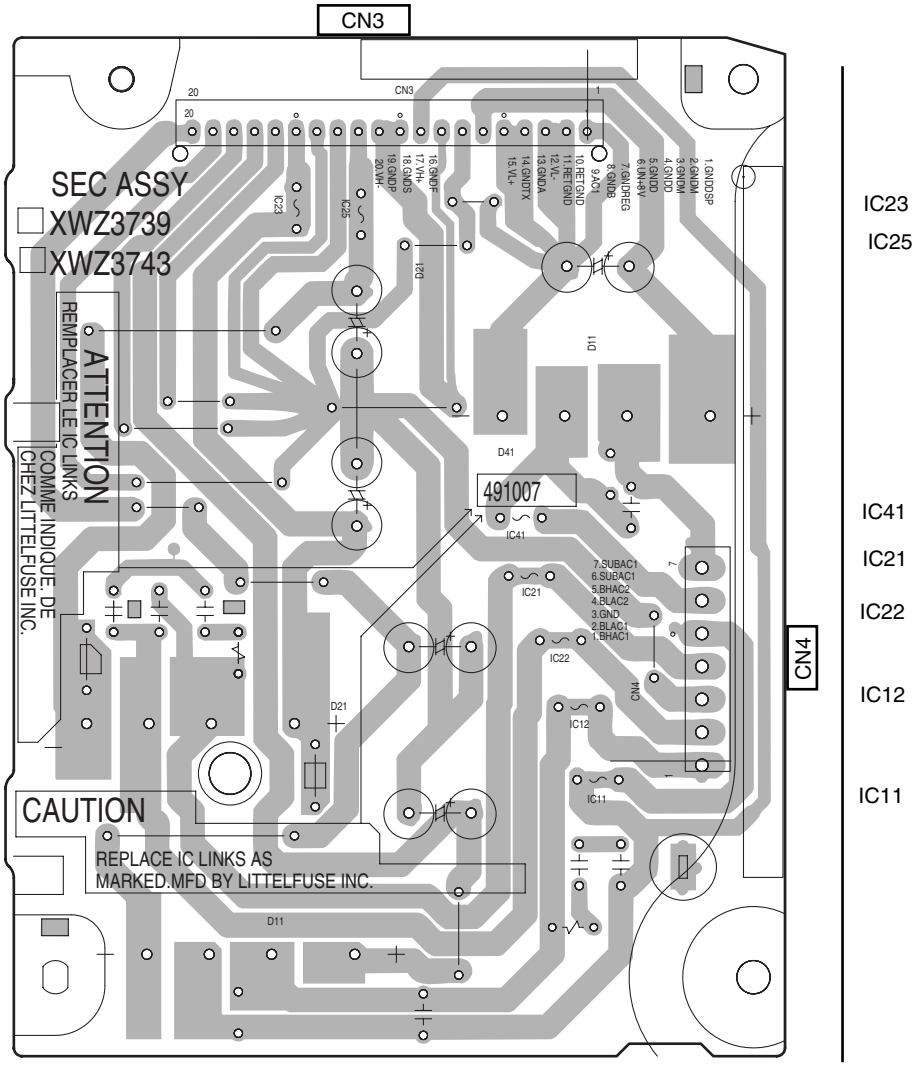
Q SECONDARY ASSY



(XNP3072-B)

SIDE B **SIDE B**

Q SECONDARY ASSY



(XNP3072-B)

5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→ *56 x 10[1]* →	*561*	*RD1/4PU 5 6 1 J*
47k Ω	→ *47 x 10[3]* →	*473*	*RD1/4PU 4 7 3 J*
0.5 Ω	→ *R50*		*RN2H R 5 0 K*
1 Ω	→ *1R0*		*RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→ *562 x 10[1]* →	*5621*	*RN1/4PC 5 6 2 1 F*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
		XV-EV61/DLXJ/NC	
	1	..DSP ASSY	AWX8254
NSP	1	..MEDIA ASSY	XWM3226
	2	..IF/AF ASSY	XWZ3726
	2	..DISP 1 ASSY	XWZ3727
	2	..DISP 2 ASSY	XWZ3728
	2	..DISP 3 ASSY	XWZ3729
	2	..MIC ASSY	XWZ3730
	2	..H.P ASSY	XWZ3731
NSP	1	..AMP ASSY	XWK3114
	2	..E-VOL ASSY	XWZ3736
	2	..SP-TERMINAL ASSY	XWZ3737
	2	..PRIMARY ASSY	XWZ3738
	2	..SECONDARY ASSY	XWZ3739
	2	..TRADE ASSY	XWZ3740
	1	..DECK ASSY	XWZ3072
NSP	1	..DVD ASSY	AXA7121
	2	..DVDM ASSY	AWM7808
NSP	1	..LOADING MECHANISM ASSY	VWT1208
NSP	2	..LOAB ASSY	VWG2347
	1	..AMP MODULE	AXQ7242
	2	..6CH AMP ASSY	AWM7720
	1	..FM/AM TUNER MODULE	AXQ7228
		XV-EV31/DLXJ/NC	
NSP	1	..MEDIA ASSY	XWM3228
	2	..IF/AF ASSY	XWZ3733
	2	..DISP 1 ASSY	XWZ3727
	2	..DISP 2 ASSY	XWZ3728
	2	..DISP 3 ASSY	XWZ3729
	2	..HP ASSY	XWZ3731
	2	..MIC ASSY	XWZ3734
NSP	1	..AMP ASSY	XWK3115
	2	..E-VOL ASSY	XWZ3741
	2	..SP-TERMINAL ASSY	XWZ3742
	2	..PRIMARY ASSY	XWZ3738
	2	..SECONDARY ASSY	XWZ3743
	2	..TRADE ASSY	XWZ3745
	1	..DECK ASSY	XWZ3073
NSP	1	..DVD ASSY	AXA7122
	2	..DVDM ASSY	AWM7809
NSP	1	..LOADING MECHANISM ASSY	VWT1208
NSP	2	..LOAB ASSY	VWG2346
	1	..AMP MODULE	AXQ7248
	2	..3CH AMP ASSY	AWM7787
	1	..FM/AM TUNER MODULE	AXQ7228

A LOAB ASSY

OTHERS

Mark	No.	Description	Part No.
		CN602 KR Connector	S2B-PH-K
		CN601 KR Connector	S5B-PH-K
		PCB BORD	VNP1836
		101 Reaf SWITCH	VSK1011

C FM/AM TUNER MODULE

SEMICONDUCTORS

Mark	No.	Description	Part No.
		IC201	BA1451F
		IC202	LC72131MD
		Q201, Q204, Q205	2SC2412K
		Q202	DTA124ES
		Q203	DTC124EK
		D201	1SS133
		D202	MTZJ5.1C

COILS AND FILTERS

Mark	No.	Description	Part No.
		L201 (FM Detector coil)	ATE7003
		F202 (Ceramic filter)	ATF-107
		F201 (Ceramic filter)	ATF-119
		F203 (AM Ceramic filter)	ATF1155

CAPACITORS

Mark	No.	Description	Part No.
		C206	CCSRCH100D50
		C212, C213, C226, C233-C235	CCSRCH101J50
		C240	CCSRCH101J50
		C231, C232	CCSRCH150J50
		C223	CEAT100M50
		C229	CEAT101M10
		C224	CEAT1R0M50
		C227	CEAT220M25
		C241	CEAT2R2M50
		C243	CEAT330M16
		C228	CEAT3R3M50

Mark No.	Description	Part No.
	C237	CEAT470M10
	C211	CEJA1R0M50
	C210	CEJA470M16
	C204, C238, C602	CKSRYB102K50
	C101, C102, C208, C220, C239	CKSRYB103K50
	C242, C601	CKSRYB103K50
	C216, C217	CKSRYB123K50
	C225	CKSRYB153K50
	C201, C205, C209, C214, C230	CKSRYB223K50
	C236, C603	CKSRYB223K50
	C221	CKSRYB224K10
	C202, C222	CKSRYB473K16
	C215	CKSRYB681K50
RESISTORS		
	R211	RD1/4PU221J
	R221	RD1/4PU222J
	R233	RD1/4PU391J
	R243	RS1/10S0R0J
	R103	RS1/10S331J
	R104	RS1/10S391J
	Other Resistors	RS1/16S###J
OTHERS		
	CN201 13P Connector	52044-1345
	BN201 4P Terminal	AKA7003
	Shield Case T	ANK7072
	Shield Case B	ANK7073
	X201 Crystal RES.(7.2MHz)	ASS1093

E IF/AF ASSY (XWZ3726)

Mark No.	Description	Part No.
SEMICONDUCTORS		
	IC8111, IC8801	AN4558NS
	IC8301	BA3838F
	IC8101	BU4052BCF
	IC8602	BU4066BCF
	IC5591, IC5801	BU4094BCF
	IC8201	M65847AFP
	IC8601, IC8624, IC8701-IC8703	NJM4558MD
	IC5501	PDC108A
	Q5801, Q5804	2SB1132
	Q5502, Q5503, Q5701, Q8111-Q8114	2SC4081
	Q8201	2SD1858X
⚠	Q8771	2SD2012
	Q5711, Q8501, Q8502, Q8621, Q8622	2SD2114K
	Q8719, Q8720, Q8743, Q8745	2SD2114K
	Q5402	2SJ103
	Q5803, Q8115, Q8116, Q8503, Q8623	DTA124EUA
	Q8625, Q8762	DTA124EUA
	Q8624, Q8626	DTC124EUA
	Q5501, Q5802, Q5805, Q5807, Q5808	DTC143EUA
	Q5607	RN2901
	D5502, D5703, D5711	1SS133
	D5716, D5801, D5952, D5954, D8501	1SS355
	D8701, D8702	1SS355
	D5715	MTZJ11C
	D5955, D8201, D8901, D8902	MTZJ5.6B
	D8601, D8602	MTZJ6.8B
	D5901	UDZS15B

Mark No.	Description	Part No.
COILS AND FILTERS		
	L5501	LAU220J
	L5502	VTL1075
	L5901	VTL1086
CAPACITORS		
	C5501 (0.047F/5.5V)	ACH1246
	C5504, C8212	CCSRCH101J50
	C5592, C5801, C8401, C8402	CCSRCH221J50
	C5903, C5904, C5906, C8723	CCSRCH470J50
	C8761, C8762	CCSRCH470J50
	C8611, C8612	CCSRCH680J50
	C5511, C5715, C5718, C5719	CEAT100M50
	C5803, C5804, C8115, C8116	CEAT100M50
	C8121, C8122, C8221, C8509, C8510	CEAT100M50
	C8603, C8604, C8617-C8620	CEAT100M50
	C8701, C8702, C8711, C8712	CEAT100M50
	C8715, C8716, C8721, C8722, C8728	CEAT100M50
	C8737, C8751, C8752, C8833-C8835	CEAT100M50
	C5502	CEAT101M10
	C5640, C8615, C8616	CEAT101M16
	C5901, C5902	CEAT102M6R3
	C5506, C8773	CEAT1R0M50
	C5608, C5610	CEAT220M25
	C5716	CEAT220M50
	C8305, C8308-C8310	CEAT2R2M50
	C5963, C5966, C5968, C8201, C8213	CEAT470M16
	C8222, C8307, C8771, C8907, C8908	CEAT470M16
	C8910	CEAT470M16
	C8631, C8632	CEAT470M50
	C8312	CEAT4R7M50
	C5433	CEJQR22M50
	C8220	CKSRYB102K50
	C5505, C5508, C5516-C5518, C5712	CKSRYB103K50
	C5962, C8101, C8103, C8107, C8108	CKSRYB103K50
	C8203-C8205, C8218, C8313	CKSRYB103K50
	C8713, C8714, C8733, C8735, C8828	CKSRYB103K50
	C8830, C8912	CKSRYB103K50
	C5639, C5964, C5965, C5967	CKSRYB104K16
	C8613, C8614, C8623, C8624	CKSRYB104K16
	C5507, C5515, C5591, C5802, C5960	CKSRYB104K25
	C8301-C8303, C8763, C8764	CKSRYB104K25
	C8219	CKSRYB122K50
	C8703, C8704, C8709, C8710, C8725	CKSRYB152K50
	C8731	CKSRYB152K50
	C5961, C8214, C8215, C8304	CKSRYB224K16
	C8605, C8606, C8753, C8754	CKSRYB331K50
	C8726	CKSRYB332K50
	C8217, C8516, C8517, C8705, C8706	CKSRYB471K50
	C8216	CKSRYB472K50
	C8202, C8223, C8306, C8772	CKSRYB473K25
	C8207-C8209	CKSRYB683K25
	C8607, C8608, C8727, C8757, C8758	CKSRYB821K50
	C8206	CKSRYB822K50
RESISTORS		
	R5802, R5804, R5807, R8216	RD1/4PU102J
	R8637, R8638, R8901, R8904	RD1/4PU102J
	R5636	RD1/4PU223J
	R5637	RD1/4PU473J
	R5903-R5906	RS1/16S1500F

Mark	No.	Description	Part No.
	R5901		RS1/16S75R0F
	Other Resistors		RS1/16S###J

OTHERS

	CN5503	11P FFC CONNECTOR	52045-1145
	CN5501	12P FFC CONNECTOR	52045-1245
	CN5701	13P FFC CONNECTOR	52045-1345
	CN8303	30P FFC CONNECTOR	52045-3045
	CN5105	5P JUMPER CONNECTOR	52147-0510
	CN8302	15P JUMPER CONNECTOR	52147-1510
	CN8401	4P PIN JACK	AKB7015
	JA5903	COMB. JACK	AKB7146
	CN5505	13P PLUG	AKP7059
	CN5801	17P PLUG	AKP7061
	CN5506, CN5507	19P PLUG	AKP7062
	X5501	CRYSTARL RESO.	ASS7034
	CN5502	7P FFC CONNECTOR	HLEM7S-1
	0 - 3	PCB BUNDER	VEF1040
	CN5905	18P FFC CONNECTOR	VKN1249
	CN5903	30P FFC CONNECTOR	VKN1261
	CN5902	7P CONNECTOR	VKN1267

E IF/AF ASSY(XWZ3733)

SEMICONDUCTORS

IC8111, IC8801		AN4558NS
IC8301		BA3838F
IC8101		BU4052BCF
IC5801		BU4094BCF
IC8201		M65847AFP
IC5501		PDC109A
Q5801, Q5804		2SB1132
Q5502, Q5503, Q5701, Q8111, Q8112		2SC4081
Q8201		2SD1858X
⚠ Q8771		2SD2012
Q5711, Q8501, Q8502		2SD2114K
Q5402		2SJ103
Q5803, Q8115, Q8503		DTA124EUA
Q5501, Q5802, Q5805, Q5807, Q5808		DTC143EUA
Q5607		RN2901
D5502, D5703, D5711		1SS133
D5716, D5801, D5952, D5954, D8501		1SS355
D8701, D8702		1SS355
D5715		MTZJ11C
D5955, D8201, D8901, D8902		MTZJ5.6B
D5901		UDZS15B

COILS AND FILTERS

L5501		LAU220J
L5901		VTL1086

CAPACITORS

C5501	(0.047F/5.5V)	ACH1246
C5504, C8212		CCSRCH101J50
C5801, C8401, C8402		CCSRCH221J50
C5903, C5904, C5906		CCSRCH470J50
C5511, C5715, C5718, C5719		CEAT100M50
C5803, C5804, C8115, C8116		CEAT100M50
C8121, C8122, C8221, C8509, C8510		CEAT100M50
C8833, C8834		CEAT100M50
C5502		CEAT101M10
C5901, C5902		CEAT102M6R3
C5506, C8773		CEAT1R0M50
C5608, C5610		CEAT220M25
C5716		CEAT220M50
C8305, C8308-C8310		CEAT2R2M50
C5963, C5966, C5968, C8201, C8213		CEAT470M16
C8222, C8307, C8771, C8907, C8908		CEAT470M16
C8910		CEAT470M16
C8312		CEAT4R7M50
C5433		CEJQR22M50
C5805, C5806, C8220		CKSRYB102K50
C5505, C5508, C5516-C5518, C5712		CKSRYB103K50
C5962, C8101, C8103, C8107, C8108		CKSRYB103K50
C8203-C8205, C8218, C8313		CKSRYB103K50
C8623, C8624, C8828, C8830, C8912		CKSRYB103K50
C5964, C5965, C5967, C8763, C8764		CKSRYB104K16
C5507, C5515, C5802, C5960		CKSRYB104K25
C8301-C8303		CKSRYB104K25
C8219		CKSRYB122K50
C5961, C8214, C8215, C8304		CKSRYB224K16
C8217, C8516, C8517		CKSRYB471K50
C8216		CKSRYB472K50
C8202, C8223, C8306, C8772		CKSRYB473K25
C8207-C8209		CKSRYB683K25
C8206		CKSRYB822K50

RESISTORS

R5802, R5804, R5807, R8216, R8901		RD1/4PU102J
R8904		RD1/4PU102J
R5636		RD1/4PU223J
R5637		RD1/4PU473J
R5903-R5906		RS1/16S1500F
R5901		RS1/16S75R0F
Other Resistors		RS1/16S###J

OTHERS

	CN5503	11P FFC CONNECTOR	52045-1145
	CN5501	12P FFC CONNECTOR	52045-1245
	CN5701	13P FFC CONNECTOR	52045-1345
	CN8303	301P FFC CONNECTOR	52045-3045
	CN5105	5P JUMPER CONNECTOR	52147-0510
	CN8302	15P JUMPER CONNECTOR	52147-1510
	CN8401	4P PIN JACK	AKB7015
	JA5903	COMB. JACK	AKB7146
	CN5801	17P PLUG	AKP7061
	X5501	CRYSTARL RESO.	ASS7034
	CN5502	7P FFC CONNECTOR	HLEM7S-1
	0-3	PCB BUNDER	VEF1040
	CN5904	10P FFC CONNECTOR	VKN1242
	CN5903	30P FFC CONNECTOR	VKN1261
	CN5902	7P CONNECTOR	VKN1267
	D8901, D8902		MTZJ6.8B
	D8601, D8602		UDZS6.8B

Mark	No.	Description	Part No.

D DECK ASSY(XWZ3072)

SEMICONDUCTORS

IC2202, IC2301, IC2401		BA4558F-HT

Mark No.	Description	Part No.
IC2201		HA12136AF
Q2254		2SA1037K
Q2801, Q2802, Q2805		2SC1815
Q2806		2SC2240
Q2251-Q2253		2SC2412K
Q2261, Q2262, Q2451, Q2452		2SD2114K
Q2301, Q2302		2SK373
Q2351, Q2460		DTA124EK
Q2303, Q2304		DTC114TK
Q2255, Q2352, Q2353, Q2453		DTC124EK
Q2263		DTC143EK
D2256, D2301-D2306		1SS133
D2252-D2255, D2307		1SS355
D2201		MTZJ6.2A

COILS AND FILTERS

L2802	LFA121J
L2801	RTD1082
L2401, L2402	RTF1004
L2403, L2404	RTF1021
F2201, F2202	RTF1217

CAPACITORS

C2809	CCCSL151K2H
C2301, C2302	CCSRCH100D50
C2423, C2424	CCSRCH221J50
C2253	CCSRCH271J50
C2256, C2257, C2321-C2324	CCSRCH470J50
C2401, C2402	CCSRCH470J50
C2303, C2304	CCSRCH681J50
C2807	CEAL470M6R3
C2203, C2204, C2207, C2311, C2312	CEAT100M50
C2215	CEAT101M16
C2201, C2202, C2217, C2218, C2255	CEAT1R0M50
C2404, C2419, C2420	CEAT1R0M50
C2251	CEAT220M50
C2216	CEAT221M16
C2254	CEAT2R2M50
C2309, C2310, C2407, C2408	CEAT330M50
C2425	CEAT470M16
C2261, C2262	CEAT4R7M50
C2208	CEATR10M50
C2205, C2206	CEATR22M50
C2403	CEJQ1R0M50
C2805, C2806, C2810	CEJQ330M10
C2314	CEJQ470M16
C2315	CKSRYB102K50
C2231	CKSRYB103K50
C2431, C2432	CKSRYB122K50
C2211, C2212	CKSRYB152K50
C2252	CKSRYB334K10
C2808	CQHA822J2A
C2801	CQMA123J50
C2421, C2422	CQMA152J50
C2409, C2410	CQMA223J50
C2803, C2804	CQMA472J50
C2802	CQMA682J50
C2209, C2210	CQMBA103J50
C2307, C2308	CQMBA682J50
C2405, C2406	CQMBA683J50

Mark No.	Description	Part No.

RESISTORS

R2805	RD1/2VM161J
R2803	RD1/2VM4R7J
VR2301, VR2302, VR2401, VR2402	PCP1028
VR2801, VR2802	PCP1032
Other Resistors	RS1/16S###J

OTHERS

CN2506	17P SOCKET	AKP7072
CN2302	CONNECTOR POST	B2B-PH-K
CN2507	3P CONNECTOR	B3P-SHF-1AA
CN2301	KR CONNECTOR	B4B-PH-K

I DISP1 ASSY

SEMICONDUCTORS

Q5110	DTC143EUA
D5110	SLR-343MC

COILS AND FILTERS

L5101	LAU220J

SWITCHES AND RELAYS

S5101-S5108	VSG1009

CAPACITORS

C5105	CCSRCH100D50
C5106	CCSRCH220J50
C5103	CEAL470M16
C5101	CKSRYB102K50
C5104	CKSRYB104K16

RESISTORS

R5210	RD1/4PU271J
Other Resistors	RS1/16S###J

OTHERS

0	4P CABLE HOLDER	51048-0400
CN5101	12P FFC CONNECTOR	52044-1245
CN5102	8P JUMPER CONNECTOR	52151-0810
CN5104	10P FFC CONNECTOR	52492-1020

H DISP2 ASSY

SEMICONDUCTORS

Q5201, Q5203	2SC2412K
D5215, D5216	1SS355
D5207	NSPBF50S-3026
D5203	NSPW500BS-2146
D5209, D5217	NSPWF50BS-9706
D5202, D5211, D5213	UDZS6.8B

SWITCHES AND RELAYS

S5201-S5207	VSG1009

CAPACITORS

C5204	CEAL101M10
C5202	CKSRYB103K50

RESISTORS

R5213	RD1/4PU101J
Other Resistors	RS1/16S###J

OTHERS

0	8P CABLE HOLDER	51048-0800
J5102	8P WIRE	D20PYY0805E

Mark	No.	Description	Part No.
	5201	REMOTE CONTROL UNIT	GP1UM28XK

G DISP3 ASSY

SEMICONDUCTORS

	D5302	NSPW500BS-2146
	D5301	UDZS6.8B

SWITCHES AND RELAYS

	S5301-S5309	VSG1009

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

0	4P CABLE HOLDER	51048-0400
J5103	4P WIRE	D20PYY0420E

J MIC ASSY (XWZ3730)

SEMICONDUCTORS

	IC5401	M65855FP
	IC5402	NJM4558MD
	Q5401	DTA143EUA
	D5401	MTZJ5.1B

COILS AND FILTERS

	L5401	LAU100J

CAPACITORS

	C5419, C5427, C5428	CCSRCH101J50
	C5423	CCSRCH102J50
	C5409	CEAL220M16
	C5416, C5422, C5426	CEAL2R2M50
	C5431, C5432	CEAL4R7M50
	C5401	CEJQ101M16
	C5421	CEJQ2R2M50
	C5420	CEJQ470M16
	C5410	CEJQR47M50
	C5404, C5408, C5411, C5430	CKSRYB103K50
	C5402, C5412, C5429, C5436	CKSRYB104K25
	C5414	CKSRYB122K50
	C5405	CKSRYB123K50
	C5406	CKSRYB472K50
	C5407	CKSRYB473K25

RESISTORS

	R5401	RD1/4PU681J
	VR5401	XCS3007
	Other Resistors	RS1/16S###J

OTHERS

0	5P CABLE HOLDER	51048-0500
J5401	5P WIRE	D20PYY0545E
JA5401, JA5402	MIC JACK	XKN3012

O HP ASSY

COILS AND FILTERS

	L3901, L3902	VTL1096

CAPACITORS

	C3905	CKSRYB103K50
	C3903, C3904	CKSRYB473K25

Mark	No.	Description	Part No.

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

0	4P CABLE HOLDER	51048-0400
3901	MINI JACK	AKN7003
J3902	4P WIRE	D20PYY0410E

K EVOL ASSY(XWZ3736)

SEMICONDUCTORS

⚠	IC3101	AEK7021
	IC3071, IC3072	AN4558NS
	IC3062	BD3814FV
	IC3055-IC3058	NJM4558MD
	IC3901	NJM4560M
⚠	IC3951	NJM7812FA
	Q3909	2SA1576A
	Q3751, Q3752	2SC4081
	Q3901, Q3902, Q3905, Q3906	2SD2114K
	Q3351, Q3352	2SK368
	Q3753, Q3754, Q3903	DTA124EUA
	D3755, D3756	1SS133
	D3753, D3754	1SS355
	D3901	DAP202K
	D3796	MTZJ3.3B
	D3052, D3053	UDZS6.8B

CAPACITORS

	C3129-C3133, C3913, C3914	CCSRCH101J50
	C3168, C3909, C3910	CCSRCH470J50
	C3189	CEAL100M16
	C3906, C3918	CEAL100M50
	C3951	CEAL1R0M50
	C3954	CEAL470M16
	C3753, C3754	CEALR47M50
	C3063, C3064, C3095, C3096	CEAT100M50
	C3173, C3174, C3190, C3917	CEAT100M50
	C3923, C3924	CEAT100M50
	C3925, C3926	CEAT101M16
	C3795	CEAT101M63
	C3955	CEAT102M25
	C3111, C3112, C3197, C3198	CEAT1R0M50
	C3757, C3758	CEAT1R0M50
	C3113, C3114	CEAT221M10
	C3149, C3911, C3912	CEAT470M16
	C3150	CEJQ470M16
	C3901, C3902	CKSRYB102K50
	C3115, C3116, C3147, C3148	CKSRYB103K50
	C3171, C3172	CKSRYB103K50
	C3159, C3160, C3169, C3170	CKSRYB104K16
	C3180, C3181, C3186, C3796	CKSRYB104K16
	C3121-C3124, C3915, C3916	CKSRYB104K25
	C3283	CKSRYB123K50
	C3138	CKSRYB152K50
	C3223, C3224	CKSRYB153K50
	C3182	CKSRYB224K16
	C3235, C3236	CKSRYB273K16
	C3267, C3268	CKSRYB332K50
	C3176, C3183, C3279	CKSRYB333K25

Mark	No.	Description	Part No.
	C3125, C3126, C3755, C3756		CKSRYB472K50
	C3177, C3179		CKSRYB473K25
	C3255, C3256		CKSRYB822K50

RESISTORS

R3118, R3119		RD1/2PM151J
R3757, R3758		RD1/4PU103J
R3164, R3177, R3206		RD1/4PU220J
R3796		RD1/4PU223J
R3901, R3902, R3911, R3912		RD1/4PU330J
Other Resistors		RS1/16S###J

OTHERS

0	4P CABLE HOLDER	51048-0400
CN3011	16P FFC CONNECTOR	52044-1645
CN3001	30P FFC CONNECTOR	52044-3045
CN3008	4P JUMPER WIRE	52151-0410
CN3012	13P JUMPER WIRE	52151-1310
CN3003	20P CONNECTOR PLUG	AKM7074
CN3006	7P CONNECTOR SOCKET	AKP7149
CN3007	12P CONNECTOR SOCKET	AKP7154
J3009	4P WIRE	D20PYY0425E
J3002	15P WIRE	D20PYY1520E
3001	SCREW TERMINAL	VNE1948

N SP-TERMINAL ASSY(XWZ3737)

SEMICONDUCTORS

Q3639	2SA1576A
Q3601, Q3602, Q3611, Q3612	2SC4081
Q3621, Q3622, Q3631, Q3637, Q3638	2SC4081
Q3642, Q3644	2SC4081
Q3641	2SD1858X
Q3635	DTA124EUA
Q3645	DTA143EUA
Q3636, Q3640	DTC124EUA
Q3633	RN1901
Q3632	UMB1N
D3632-D3634	1SS133
D3601, D3602, D3611, D3612	1SS355
D3621, D3622, D3636, D3637	1SS355
D3641-D3643	1SS355
D3635	DAN202K
D3644	DAN217
D3603, D3613, D3623	DAP202K
D3631	MTZJ5.1A

COILS AND FILTERS

L3361, L3362, L3461, L3462	ATH-959
L3661	ATH-059

SWITCHES AND RELAYS

RY3641-RY3643	ASR7008

CAPACITORS

C3631	CEAL2R2M50
C3633	CEAT100M50
C3632	CEAT471M6R3
C3668	CKSRYB103K50
C3361-C3364, C3461-C3464	CKSRYB223K50
C3561-C3564	CKSRYB223K50
C3365-C3368, C3465-C3468, C3565	CKSRYB473K50
C3567, C3665, C3667	CKSRYB473K50
C3369, C3370, C3469, C3470,C3569	XCG3008
C3669	XCG3008

RESISTORS

R3607, R3608, R3617,R3618	ACN7112
R3627, R3628 (0.1ohm, 2W)	ACN7112
R3361, R3362, R3461, R3462, R3561	RD1/2PMF101J
R3661	RD1/2PMF101J
R3668	RD1/4PU223J
R3634	RD1/4PU272J
R3635	RD1/4PU332J
R3631, R3632	RD1/4PU472J
R3633	RD1/4PU682J
R3365-R3368, R3465-R3468	RS1/10S220J
R3565, R3566, R3665, R3667	RS1/10S220J
Other Resistors	RS1/16S###J

OTHERS

CN3307	7P CONNECTOR PLUG	AKM7061
CN3305	12P CONNECTOR	AKM7066
JA3301	12P SPEAKER TERMINAL	XKE3022

P PRIMARY ASSY

SEMICONDUCTORS

⚠ IC5508	NJM78M56FA
Q81	2SD1858X
Q80	DTC124EK
D87-D89	1SS133
D80	DF06SA

COILS AND FILTERS

⚠ L1	XTF3003

SWITCHES AND RELAYS

⚠ RY81	ASR7027

CAPACITORS

⚠ C1, C3 (0.01/AC275V)	ACE7013
C84	CEAT100M50
C82	CEAT102M25
C83	CEAT1R0M50
C85	CKSRYB103K50

RESISTORS

Other Resistors	RS1/16S###J

OTHERS

CN7	4P JUMPER CONNECTOR	52151-0410
H1 - H6	FUSE CLIP	AKR7001
⚠ T2	SUB TRANS FORMER	ATT7080
CN1	2P-VH CONNECTOR	B2P3-VH
CN2	4P-VH CONNECTOR	B4P7-VH
0	PCB BINDER	VEF1040
⚠ AN1	1P AC INLET	XKP3041
⚠ S1	VOLTAGE SELECTOR	XKX3001

Q SECONDARY ASSY

SEMICONDUCTORS

⚠ IC41 (7A)	AEK7021
D11, D21, D41	D5SBA20(B)

Mark	No.	Description	Part No.
		CAPACITORS	
	C21, C22	(4700uF/35)	ACH7166
	C41		CEAT682M25
	C9011, C9021, C9041		CQMA333K2E
	C11, C12	(2200uF/63)	XCH3020
		OTHERS	
	CN3	20P CONNECTOR	AKP7162
	CN4	7P-VE CONNECTOR	B7P-VH
	0	PCB BINDER	VEF1040

L TRADE ASSY(XWZ3740)

		RESISTORS	
	Other Resistors		RS1/16S###J
		OTHERS	
	0	13P CABLE HOLDER	51048-1300
	CN3031	16P FFC CONNECTOR	52045-1645
	CN3021, CN3022	23P SOCKET	AKP7075
	J3032	13P WIRE	D20PYY1315E
	J3033	14P WIRE	D20PYY1415E

M MOD.AMP ASSY(AWM7720)

		SEMICONDUCTORS	
⚠	IC81		NJM7805FA
⚠	IC71		NJM7912FA
⚠	IC3301, IC3401		STK402-270
	Q3382, Q43		2SA1576A
	Q62		2SB1237X
	Q111, Q3381, Q63, Q92		2SC4081
⚠	Q61		2SD2012
	Q3301, Q3302, Q3401, Q3402		2SD2114K
	Q3501, Q3502, Q3504		2SD2114K
	Q3654		2SD2144S
	Q107, Q3653		DTA124EUA
	Q3652		DTA124TK
	Q106		DTC124EUA
⚠	Q3383, Q91		IRFI9Z34G
⚠	Q3384		IRFIZ34G
	Q3651		RN1901
	Q101, Q103		UMB1N
	Q102, Q104		UMH1N
⚠	D3321-D3326		1SR139-400
	D3327, D3328		1SR139-400
⚠	D3421-D3426		1SR139-400
	D3427, D3428		1SR139-400
	D3387, D3388, D3651-D3655		1SS133
	D101, D102, D104, D3657, D42		1SS355
⚠	D3391, D3392		30PDA20-FC6
⚠	D3381, D3382, D3481, D3482		DAN217
⚠	D3581, D3582		DAN217
	D3389, D3390		MTZJ10C
⚠	D98		MTZJ11B
⚠	D72		MTZJ15C
	D3393, D3394		MTZJ18B/C
⚠	D63		MTZJ18C
	D3385, D3386		MTZJ36A
⚠	D82		MTZJ7.5C
	D91		UDZS18B
	D105,		

Mark	No.	Description	Part No.
	TH111		NCP18WF104J03RB
		CAPACITORS	
	C3305, C3306, C3405, C3406		CCSRCH221J50
	C3505, C3506, C62, C97		CCSRCH221J50
	C3309, C3310, C3409, C3410		CCSRCJ3R0C50
	C3509, C3510		CCSRCJ3R0C50
	C3307, C3308, C3407, C3408, C3508		CEAL100M16
	C3507		CEAL470M6R3
	C72		CEAT100M50
	C3651		CEAT101M25
	C101, C102		CEAT1R0M50
	C3323, C3324, C3423, C3424		CEAT221M50
	C3167, C3168, C3178, C3179		CEAT2R2M50
	C3301, C3302, C3317, C3318		CEAT2R2M50
	C3401, C3402, C3501, C3502		CEAT2R2M50
	C3652, C63, C82, C98		CEAT470M25
	C3653		CEAT470M35
	C3303, C3304, C3403, C3404		CKSRYB102K50
	C3503, C3504		CKSRYB102K50
	C92		CKSRYB104K16
	C71, C81		CKSRYB473K50
		RESISTORS	
	R3317-R3320, R3417-R3420		ACN7122
	R3517-R3520	(0.22ohm, 2W)	ACN7122
⚠	R3327, R3328, R3427, R3428		RD1/4MUF470J
	R3387, R3388		RD1/4PU101J
	R3657		RD1/4PU330J
	R96, R97		RS1/16S1002F
⚠	R3323, R3324, R3351, R3423, R3424		RS1/16S1R0J
⚠	R3451		RS1/16S1R0J
	R67, R68		RS1/16S2201F
	R94, R95		RS1/16S2701F
⚠	R62		RS1/16S330J
	R65		RS1/16S4700F
	R47, R48		RS1/16S4701F
	Other Resistors		RS1/16S###J
		OTHERS	
	CN3001, CN3002	23P PLUG	AKP7064
	CN3651	PLUG(2P)	KM200SA2

B DVD MAIN ASSY(AWM7808)

		SEMICONDUCTORS	
	IC602		K4S641632F-TC75
	IC101		M63018FP
⚠	IC431		MM1565AF
	IC501		MM1623AF
⚠	IC421		PQ018EH01ZP
⚠	IC411		PQ018EZ01ZP
⚠	IC441		PQ20WZ11
⚠	IC401		R1224N102H
	IC601		STM5589CVA
	IC301		STM6316ATXXA
	IC911		TC74VHC08FT
	IC901		TC74VHCT125AFT
	IC604		TC7WU04FU
	IC603		VYW2096
	Q390		2SA1576A
⚠	Q451		2SA1576A

Mark	No.	Description	Part No.
	Q923, Q924, Q926		2SA1576A
	Q202, Q212, Q452		2SC4081
⚠	Q401		CPH6314
	Q921		DTA124EUA
	Q951		DTC114TUA
	Q724, Q977		DTC114YUA
	Q922, Q925		DTC124EUA
	Q201, Q211		HN1A01F
	Q911		RN1903
	Q603		RN4982
	D431, D432		1SR154-400
	D402, D403, D922–D927		1SS355
	D401		RB051L-40
	D603		RB501V-40
	D921		UDZS4.7B

COILS AND FILTERS

L401		ATH7011
L402		CTH1254
L390		LCYA2R7J2520
L1056-L1061		VTL1078

CAPACITORS

C408	CCSRCH121J50
C390	CCSRCH180J50
C142	CCSRCH221J50
C200	CCSRCH331J50
C690	CCSRCH470J50
C392	CCSRCH560J50
C393, C640, C644	CCSRCH7R0D50
C452	CEV100M16
C101, C401, C404, C410,C412	CEV101M16
C422, C443, C561, C564,C600	CEV101M16
C621, C660	CEV101M16
C415, C425	CEV101M4
C201, C211	CEV470M16
C406	CKSQYB104K25
C431	CKSQYB105K16
C433	CKSQYB225K10
C127, C128, C381, C562, C563	CKSRYB102K50
C624	CKSRYB102K50
C112-C114, C124, C125, C130	CKSRYB103K50
C133, C134, C355	CKSRYB103K50
C102, C132, C139, C230	CKSRYB104K16
C232, C233, C300, C307, C309	CKSRYB104K16
C315, C318, C323, C326, C335	CKSRYB104K16
C342, C348, C357, C362, C373	CKSRYB104K16
C377, C388, C391, C413, C414	CKSRYB104K16
C423, C424, C441, C442, C451	CKSRYB104K16
C511, C531, C551, C565, C571	CKSRYB104K16
C604, C607, C614, C619	CKSRYB104K16
C622, C623, C626–C632	CKSRYB104K16
C636, C637, C641, C647–C649	CKSRYB104K16
C659, C664, C671, C681, C684	CKSRYB104K16
C694, C698, C902, C912, C921	CKSRYB104K16
C501, C521, C541, C603, C620	CKSRYB105K10
C625	CKSRYB105K10
C394	CKSRYB152K50
C126, C346	CKSRYB223K50
C202, C205, C212, C215	CKSRYB472K50
C402, C403, C405, C409 (10u/25)	DCH1165

Mark	No.	Description	Part No.

RESISTORS

R201	RAB4C220J
R211	RAB4C390J
R100, R1011-R1013, R111, R210	RS1/10S0R0J
R387–R389, R412–R415, R417	RS1/10S0R0J
R421, R422, R561, R600, R623	RS1/10S0R0J
R403	RS1/10S100J
R105, R106, R115–R120	RS1/10S4R7J
R104, R107	RS1/10S6R8J
R125, R144, R330, R331, R628	RS1/16S1002F
R635	RS1/16S1002F
R301	RS1/16S1202F
R502, R512, R522, R532, R542	RS1/16S1500F
R552	RS1/16S1500F
R408	RS1/16S1502F
R410	RS1/16S1802F
R443	RS1/16S2001F
R409	RS1/16S2702F
R441	RS1/16S4701F
R101, R102, R123, R142, R143	RS1/16S5600F
R442	RS1/16S6801F
R411	RS1/8S0R0J
Other Resistors	RS1/16S###J

OTHERS

CN104	4P CONNECTOR	AKN7035
CN105	12P FFC CONNECTOR	RKN1053
CN103	PH FFC CONNECTOR	S5B-PH-SM3
0	FLEXIBLE CABLE	VDA1681
CN903	18P FFC CONNECTOR	VKN1310
CN901	30P FFC CONNECTOR	VKN1322
CN101	24P CONNECTOR	VKN1482
X601	RESO. (27MHz)	VSS1172
X301	RESO. (20MHz)	VSS1186

F DSP ASSY (EV61 Only)

SEMICONDUCTORS

IC8201	AK4114VQ
IC8401	AK4628VQ
IC8501	DSPD56367PV150
IC8901	NJM2391DL1-33
IC8902	NJU7223DL1-18
IC8701	TC74LVX244FT
IC8702	TC74VHCT244AFT
IC8502	TC7WU04FU
Q8504	UMD2N
Q8503	UN5112
D8501	1SS355
D8401	DAN202K
D8402, D8502, D8503	DAP202K

COILS AND FILTERS

L8002, L8004, L8501,L8502		ATL7002
L8201, L8203, L8204, L8401, L8402		QTL1013
L8504, L8702		QTL1013
X8501	RESO.(20MHz)	VSS1171
X8201	RESO. (24.576MHz)	XSS3003

CAPACITORS

C8209, C8210	CCSRCH100D50

Mark	No.	Description	Part No.
	C8421		CCSRCH101J50
	C8007, C8008, C8201, C8212, C8214		CCSRCH471J50
	C8404, C8409-C8414, C8416, C8417		CCSRCH471J50
	C8419, C8505, C8507, C8509		CCSRCH471J50
	C8511, C8512, C8515, C8518, C8520		CCSRCH471J50
	C8522, C8524, C8526, C8528, C8530		CCSRCH471J50
	C8532, C8534, C8536, C8539, C8541		CCSRCH471J50
	C8543, C8545, C8551, C8703, C8706		CCSRCH471J50
	C8548, C8549		CCSRCH8R0D50
	C8701, C8704		CEV100M16
	C8406, C8415, C8546, C8547, C8902		CEV101M16
	C8904		CEV101M16
	C8217, C8225, C8408		CEV470M6R3
	C8204, C8555		CKSRYB102K50
	C8009, C8405, C8418, C8517, C8554		CKSRYB103K50
	C8010, C8202, C8207, C8213, C8215		CKSRYB104K16
	C8407, C8420, C8422, C8504, C8513		CKSRYB104K16
	C8521, C8523, C8525, C8527, C8529		CKSRYB104K16
	C8531, C8533, C8535, C8537, C8538		CKSRYB104K16
	C8540, C8542, C8544, C8550, C8702		CKSRYB104K16
	C8705, C8901, C8903		CKSRYB104K16
	C8516		CKSRYB105K6R3
	C8514		CKSRYB333K16
	C8203		CKSRYB473K50

RESISTORS

	R8506	RAB4C101J
	R8201	RS1/16S1802F
	Other Resistors	RS1/16S###J

OTHERS

	CN8003 13P SOCKET	AKP7070
	CN8007, CN8011 19P SOCKET	AKP7073
	8101 SCREW TERMINAL	VNE1948

M 3CH AMP ASSY (AWM7787)

SEMICONDUCTORS

Mark	No.	Description	Part No.
⚠	IC81		NJM7805FA
⚠	IC71		NJM7912FA
⚠	IC3301		STK402-270
	Q3382, Q43		2SA1576A
	Q62		2SB1237X
	Q111, Q3381, Q63, Q92		2SC4081
⚠	Q61		2SD2012
	Q3301, Q3302, Q3502, Q3504		2SD2114K
	Q3654		2SD2144S
	Q107, Q3653		DTA124EUA
	Q3652		DTA124TK
	Q106		DTC124EUA
⚠	Q3383, Q91		IRFI9Z34G
⚠	Q3384		IRFIZ34G
	Q3651		RN1901
	Q101, Q103		UMB1N
	Q102, Q104		UMH1N
⚠	D3321-D3326		1SR139-400
	D3327, D3328		1SR139-400
	D3387, D3388, D3651-D3655		1SS133
	D101, D102, D104, D3657, D42		1SS355
⚠	D3391, D3392		30PDA20-FC6
⚠	D3381, D3382, D3582		DAN217
	D3389, D3390		MTZJ10C
⚠	D98		MTZJ11B
⚠	D72		MTZJ15C
	D3393, D3394		MTZJ18B/C
⚠	D63		MTZJ18C
	D3385, D3386		MTZJ36A
⚠	D82		MTZJ7.5C
	D91		UDZS18B
	D105, D106, D3658		UDZS7.5B
	TH111		NCP18WF104J03RB

CAPACITORS

	C3305, C3306, C3506, C62, C97	CCSRCH221J50
	C3309, C3310, C3510	CCSRCJ3R0C50
	C3307, C3308, C3508	CEAL100M16
	C72	CEAT100M50
	C3651	CEAT101M25
	C101, C102	CEAT1R0M50
	C3323, C3324	CEAT221M50
	C3179, C3301, C3302, C3317, C3318	CEAT2R2M50
	C3502	CEAT2R2M50
	C3652, C63, C82, C98	CEAT470M25
	C3653	CEAT470M35
	C3303, C3304, C3504	CKSRYB102K50
	C92	CKSRYB104K16
	C71, C81	CKSRYB473K50

RESISTORS

	R3317-R3320, R3518, R3520	ACN7122
⚠	R3327, R3328	RD1/4MUF470J
	R3387, R3388	RD1/4PU101J
	R3657	RD1/4PU330J
	R96, R97	RS1/16S1002F
⚠	R3323, R3324, R3351	RS1/16S1R0J
	R67, R68	RS1/16S2201F
	R94, R95	RS1/16S2701F
⚠	R62	RS1/16S330J
	R65	RS1/16S4700F
	R47, R48	RS1/16S4701F
	Other Resistors	RS1/16S###J

OTHERS

	CN3001, CN3002 23P PLUG	AKP7064
	CN3651 2P PLUG	KM200SA2

B DVDM ASSY (AWM7809)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC602		K4S641632F-TC75
	IC101		M63018FP
⚠	IC431		MM1565AF
	IC501		MM1623AF
	IC701		PCM1742KE
⚠	IC421		PQ018EH01ZP
⚠	IC411		PQ018EZ01ZP
⚠	IC441		PQ20WZ11
⚠	IC401		R1224N102H
	IC601		STM5589CVA
	IC301		STM6316ATXXA
	IC911		TC74VHC08FT
	IC901		TC74VHCT125AFT
	IC604		TC7WU04FU

Mark	No.	Description	Part No.
	IC603		VYW2096
	Q390		2SA1576A
⚠	Q451		2SA1576A
	Q723, Q923, Q924, Q926		2SA1576A
	Q202, Q212, Q452		2SC4081
	Q725, Q726		2SD2114K
⚠	Q401		CPH6314
	Q921		DTA124EUA
	Q951		DTC114TUA
	Q721, Q922, Q925		DTC124EUA
	Q201, Q211		HN1A01F
	Q911		RN1903
	Q603		RN4982
	D431, D432		1SR154-400
	D402, D403, D922-D927		1SS355
	D401		RB051L-40
	D603		RB501V-40
	D921		UDZS4.7B

COILS AND FILTERS

L401		ATH7011
L402		CTH1254
L390		LCYA2R7J2520
L1056-L1058		VTL1078

CAPACITORS

C733, C734	CCSRCH102J50
C408	CCSRCH121J50
C390	CCSRCH180J50
C142	CCSRCH221J50
C200	CCSRCH331J50
C690	CCSRCH470J50
C392	CCSRCH560J50
C393, C640, C644	CCSRCH7R0D50
C452, C731,C732	CEV100M16
C101, C401, C404, C410,C412	CEV101M16
C422, C443, C561,C564,C600	CEV101M16
C621, C660, C705,C706	CEV101M16
C415, C425, C702	CEV101M4
C201, C211	CKSQYB104K25
C406	CKSQYB104K25
C431	CKSQYB105K16
C433	CKSQYB225K10
C127, C128, C381, C562, C563	CKSRYB102K50
C624	CKSRYB102K50
C112-C114, C124, C125, C130	CKSRYB103K50
C133, C134, C355	CKSRYB103K50
C102, C132, C139, C230	CKSRYB104K16
C232, C233, C300, C307, C309	CKSRYB104K16
C315, C318, C323, C326, C335	CKSRYB104K16
C342, C348, C357, C362, C373	CKSRYB104K16
C377, C388, C391, C413, C414	CKSRYB104K16
C423, C424, C441, C442, C451	CKSRYB104K16
C511, C531, C551, C565, C571	CKSRYB104K16
C604, C607, C614, C619	CKSRYB104K16
C622, C623, C626-C632	CKSRYB104K16
C636, C637, C641, C647-C649	CKSRYB104K16
C659, C664, C671, C681, C684	CKSRYB104K16
C694, C698, C703, C704, C707	CKSRYB104K16
C709, C902, C912, C921	CKSRYB104K16

Mark	No.	Description	Part No.
	C501, C521, C541, C603, C620		CKSRYB105K10
	C625		CKSRYB105K10
	C394		CKSRYB152K50
	C126, C346		CKSRYB223K50
	C202, C205, C212, C215		CKSRYB472K50
	C402, C403, C405, C409 (10u/25)		DCH1165

RESISTORS

R201	RAB4C220J
R211	RAB4C390J
R100, R1011-R1013, R111, R210	RS1/10S0R0J
R387-R389, R412-R415, R417	RS1/10S0R0J
R421, R422, R561, R600, R623	RS1/10S0R0J
R403	RS1/10S100J
R105, R106, R115-R120	RS1/10S4R7J
R104, R107	RS1/10S6R8J
R125, R144, R330, R331, R628	RS1/16S1002F
R635	RS1/16S1002F
R301	RS1/16S1202F
R502, R512, R522, R532, R542	RS1/16S1500F
R552	RS1/16S1500F
R408	RS1/16S1502F
R410	RS1/16S1802F
R443	RS1/16S2001F
R409	RS1/16S2702F
R441	RS1/16S4701F
R101, R102, R123, R142, R143	RS1/16S5600F
R442	RS1/16S6801F
R411	RS1/8S0R0J
Other Resistors	RS1/16S###J

OTHERS

CN104	4P CONNECTOR	AKN7035
CN105	12P FFC CONNECTOR	RKN1053
CN103	PH CONNECTOR	S5B-PH-SM3
0	FLEXIBLE CABLE	VDA1681
CN902	11P FFC CONNECTOR	VKN1303
CN901	30P FFC CONNECTOR	VKN1322
CN101	24P CONNECTOR	VKN1482
X601	RESO. (27MHz)	VSS1172
X301	RESO. (20MHz)	VSS1186

D DECK ASSY(XWZ3073)

SEMICONDUCTORS

IC2202, IC2301, IC2401	BA4558F-HT
IC2201	HA12136AF
Q2254	2SA1037K
Q2801,Q2802, Q2805	2SC1815
Q2806	2SC2240
Q2251-Q2253	2SC2412K
Q2261, Q2262, Q2451, Q2452	2SD2114K
Q2301, Q2302	2SK373
Q2351, Q2460	DTA124EK
Q2303, Q2304	DTC114TK
Q2255, Q2352, Q2353, Q2453	DTC124EK
Q2263	DTC143EK
D2256, D2301-D2306	1SS133
D2252-D2255, D2307	1SS355
D2201	MTZJ6.2A

Mark	No.	Description	Part No.
COILS AND FILTERS			
	L2802		LFA121J
A	L2801	OSC COIL	RTD1082
	L2401, L2402	10mH	RTF1004
	L2403, L2404	4.7mH	RTF1021
	F2201, F2202	MPX COIL	RTF1217
CAPACITORS			
	C2809		CCCSL151K2H
	C2301, C2302		CCSRCH100D50
	C2423, C2424		CCSRCH221J50
	C2253		CCSRCH271J50
	C2256, C2257, C2321-C2324		CCSRCH470J50
	C2401, C2402		CCSRCH470J50
B	C2303, C2304		CCSRCH681J50
	C2807		CEAL470M6R3
	C2203, C2204, C2207, C2311, C2312		CEAT100M50
	C2215		CEAT101M16
	C2201, C2202, C2217, C2218, C2255		CEAT1R0M50
	C2404, C2419, C2420		CEAT1R0M50
	C2251		CEAT220M50
	C2216		CEAT221M16
	C2254		CEAT2R2M50
	C2309, C2310, C2407, C2408		CEAT330M50
	C2425		CEAT470M16
C	C2261, C2262		CEAT4R7M50
	C2208		CEATR10M50
	C2205, C2206		CEATR22M50
	C2403		CEJQ1R0M50
	C2805, C2806, C2810		CEJQ330M10
	C2314		CEJQ470M16
	C2315		CKSRYB102K50
	C2231		CKSRYB103K50
	C2431, C2432		CKSRYB122K50
	C2211, C2212		CKSRYB152K50
	C2252		CKSRYB334K10
D	C2808		CQHA822J2A
	C2801		CQMA123J50
	C2421, C2422		CQMA152J50
	C2409, C2410		CQMA223J50
	C2803, C2804		CQMA472J50
	C2802		CQMA682J50
	C2209, C2210		CQMBA103J50
	C2307, C2308		CQMBA682J50
	C2405, C2406		CQMBA683J50
RESISTORS			
E	R2805		RD1/2VM161J
	R2803		RD1/2VM4R7J
	VR2301, VR2302, VR2401, VR2402		PCP1028
	VR2801, VR2802		PCP1032
	Other Resistors		RS1/16S###J
OTHERS			
	CN2506	17P SOCKET	AKP7072
	CN2302	KR CONNECTOR	B2B-PH-K
	CN2507	3P TOP POST	B3P-SHF-1AA
	CN2301	KR CONNECTOR	B4B-PH-K

I DISP1 ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
F	Q5110		DTC143EUA
	D5110		SLR-343MC(NPQ)
COILS AND FILTERS			
	L5101		LAU220J
SWITCHES AND RELAYS			
	S5101-S5108		VSG1009
CAPACITORS			
	C5105		CCSRCH100D50
	C5106		CCSRCH220J50
	C5103		CEAL470M16
	C5101		CKSRYB102K50
	C5104		CKSRYB104K16
RESISTORS			
	R5210		RD1/4PU271J
	Other Resistors		RS1/16S###J
OTHERS			
	0	4P CABLE HOLDER	51048-0400
	CN5101	12P FFC CONNECTOR	52044-1245
	CN5102	8P JUMPER CONNECTOR	52151-0810
	CN5104	1OP FFC CONNECTOR	52492-1020

H DISP2 ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	Q5201, Q5203		2SC2412K
	D5215, D5216		1SS355
	D5207		NSPBF50S-3026
	D5203		NSPW500BS-2146
	D5209, D5217		NSPWF50BS-9706
	D5202, D5211, D5213		UDZS6.8B
SWITCHES AND RELAYS			
	S5201-S5207		VSG1009
CAPACITORS			
	C5204		CEAL101M10
	C5202		CKSRYB103K50
RESISTORS			
	R5213		RD1/4PU101J
	Other Resistors		RS1/16S###J
OTHERS			
	0	8P CABLE HOLDER	51048-0800
	J5102	8P WIRE	D20PYY0805E
	5201	REMOTE CONTROL UNIT	GP1UM28XK

G DISP3 ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	D5302		NSPW500BS-2146
	D5301		UDZS6.8B
SWITCHES AND RELAYS			
	S5301-S5309		VSG1009
RESISTORS			
	Other Resistors		RS1/16S###J
OTHERS			
	0	4P CABLE HOLDER	51048-0400
	J5103	4P WIRE	D20PYY0420E

Mark	No.	Description	Part No.

O HP ASSY

COILS AND FILTERS

	L3901, L3902	VTL1096

CAPACITORS

	C3905	CKSRYB103K50
	C3903, C3904	CKSRYB473K25

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

0	4P CABLE HOLDER	51048-0400
3901	MINI JACK	AKN7003
J3902	4P WIRE	D20PYY0410E

J MIC ASSY (XWZ3734)

SEMICONDUCTORS

	IC5401	M65855FP
	IC5402	NJM4558MD
	Q5401	DTA143EUA
	D5401	MTZJ5.1B

COILS AND FILTERS

	L5401	LAU100J

CAPACITORS

	C5419, C5427, C5428	CCSRCH101J50
	C5423	CCSRCH331J50
	C5409	CEAL220M16
	C5416, C5422, C5426	CEAL2R2M50
	C5431, C5432	CEAL4R7M50
	C5401	CEJQ101M16
	C5421	CEJQ2R2M50
	C5420	CEJQ470M16
	C5410	CEJQR47M50
	C5404, C5408, C5411, C5430	CKSRYB103K50
	C5402, C5412, C5429, C5436	CKSRYB104K25
	C5414	CKSRYB122K50
	C5405	CKSRYB123K50
	C5406	CKSRYB472K50
	C5407	CKSRYB473K25

RESISTORS

	R5401	RD1/4PU681J
	VR5401 ROTARY ENCODER	XCS3007
	Other Resistors	RS1/16S###J

OTHERS

0	5P CABLE HOLDER	51048-0500
J5401	5P WIRE	D20PYY0545E
JA5401, JA5402	MIC JACK	XKN3012

K EVOL ASSY (XWZ3741)

SEMICONDUCTORS

⚠	IC3101	AEK7021
	IC3071, IC3072	AN4558NS
	IC3062	BD3814FV
	IC3055-IC3058	NJM4558MD
	IC3901	NJM4560M
⚠	IC3951	NJM7812FA
	Q3909	2SA1576A
	Q3751, Q3752	2SC4081
	Q3901, Q3902, Q3905, Q3906	2SD2114K
	Q3351, Q3352	2SK368
	Q3753, Q3754, Q3903	DTA124EUA
	D3755, D3756	1SS133
	D3753, D3754	1SS355
	D3901	DAP202K
	D3796	MTZJ3.3B
	D3052, D3053	UDZS6.8B

CAPACITORS

	C3129-C3133, C3913, C3914	CCSRCH101J50
	C3336, C3337	CCSRCH221J50
	C3168, C3909, C3910	CCSRCH470J50
	C3906, C3918	CEAL100M50
	C3189, C3197, C3198, C3951	CEAL1R0M50
	C3954	CEAL470M16
	C3753, C3754	CEALR47M50
	C3063, C3064, C3173, C3174, C3917	CEAT100M50
	C3923, C3924	CEAT100M50
	C3925, C3926	CEAT101M16
	C3795	CEAT101M63
	C3955	CEAT102M25
	C3111, C3112, C3190, C3757, C3758	CEAT1R0M50
	C3113, C3114	CEAT221M10
	C3149, C3911, C3912	CEAT470M16
	C3150	CEJQ470M16
	C3901, C3902	CKSRYB102K50
	C3115, C3116, C3147, C3148	CKSRYB103K50
	C3159, C3160, C3170-C3172	CKSRYB103K50
	C3334, C3335	CKSRYB103K50
	C3180, C3181, C3183, C3186, C3796	CKSRYB104K16
	C3121-C3124, C3340-C3343	CKSRYB104K25
	C3915, C3916	CKSRYB104K25
	C3138	CKSRYB152K50
	C3182	CKSRYB224K10
	C3176	CKSRYB333K25
	C3184, C3185	CKSRYB393K25
	C3125, C3126, C3755, C3756	CKSRYB472K50
	C3177, C3179	CKSRYB473K25

RESISTORS

	R3118, R3119	RD1/2PM151J
	R3757, R3758	RD1/4PU103J
	R3164, R3177, R3206	RD1/4PU220J
	R3796	RD1/4PU223J
	R3901, R3902, R3911, R3912	RD1/4PU330J
	Other Resistors	RS1/16S###J

OTHERS

0	4P CABLE HOLDER	51048-0400
CN3011	12P FFC CONNECTOR	52044-1245
CN3001	30P FFC CONNECTOR	52044-3045
CN3008	4P JUMPER WIRE	52151-0410
CN3012	13P JUMPER WIRE	52151-1310
CN3003	20P CONNECTOR	AKM7074
CN3007	12P CONNECTOR SOCKET	AKP7154
J3009	4P WIRE	D20PYY0425E

Mark	No.	Description	Part No.
	J3002	15P WIRE	D20PYY1520E
	3001	SCREW TERMINAL	VNE1948

N SP-TERMINAL ASSY(XWZ3742)

SEMICONDUCTORS

	Q3639	2SA1576A
	Q3601, Q3602, Q3621,Q3631	2SC4081
	Q3637, Q3644	2SC4081
	Q3641	2SD1858X
	Q3635	DTA124EUA
	Q3645	DTA143EUA
	Q3636, Q3640	DTC124EUA
	Q3633	RN1901
	Q3632	UMB1N
	D3632-D3634	1SS133
	D3601, D3602, D3621, D3636, D3637	1SS355
	D3641, D3642	1SS355
	D3635	DAN202K
	D3644	DAN217
	D3603, D3623	DAP202K
	D3631	MTZJ5.1A

COILS AND FILTERS

	L3361,L3362, L3561	ATH-059

SWITCHES AND RELAYS

	RY3641, RY3642	ASR7008

CAPACITORS

	C3631	CEAL2R2M50
	C3633	CEAT100M50
	C3632	CEAT471M6R3
	C3668	CKSRYB103K50
	C3361-C3364, C3561, C3563	CKSRYB223K50
	C3365-C3368, C3565, C3567	CKSRYB473K50
	C3369,	

RESISTORS

	R3607,	
	R3361, R3362, R3561	RD1/2PMF101J
	R3668	RD1/4PU223J
	R3634	RD1/4PU272J
	R3635	RD1/4PU332J
	R3631, R3632	RD1/4PU472J
	R3633	RD1/4PU682J
	R3365-R3368, R3565, R3566	RS1/10S220J
	Other Resistors	RS1/16S###J

OTHERS

	3603 2P PIN JACK	AKB1233
	CN3305 12P CONNECTOR PLUG	AKM7066
	JA3302 6P SPEAKER TERMINAL	XKE3023

Q SECONDARY ASSY(XWZ3743)

SEMICONDUCTORS

⚠	IC41 (7A)	AEK7021
	D11, D21, D41	D5SBA20(B)

CAPACITORS

	C21, C22 (4700uF/35)	ACH7166
	C41	CEAT682M25
	C9011, C9041	CQMA103K2E
	C9021	CQMA473K2E
	C11, C12 (2200uF/63)	XCH3020

OTHERS

	CN3 20P CONNECTOR SOCKET	AKP7162
	CN4 7P-VH CONNECTOR	B7P-VH
	0 PCB BINDER	VEF1040

L TRADE ASSY(XWZ3745)

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	0 13P CABLE HOLDER	51048-1300
	CN3031 12PFFC CONNECTOR	52045-1245
	CN3021, CN3022 23P SOCKET	AKP7075
	J3032 13P WIRE	D20PYY1315E
	J3033 14P WIRE	D20PYY1415E

6. ADJUSTMENT

6.1 DECK SECTION

6.1.1 Adjustment condition

■ Adjustment Condition

(1) The ground at the time of adjustment shall be W166. (Refer to Fig. 6–3).
(2) Clean the heads and demagnetize them using a head eraser.
(3) Set the measurement level to 0 dBV = 1 Vrms.
(4) Use the specified tape for adjustment. Use the labeled (A) side of the test tape.
NCT–111 : For Tape Speed adjustment
NCT-112 : For Playback adjustment
STD–633 : Normal blank tape

* As the reference recording level is 250 nwb/m for NCT–112, the recording level will be higher than 4 dB for NCT–112 (160nwb/m). When adjusting, pay carefully attention to the type of tape used.

(5) Provide yourself with the following measuring devides:
- AC millivoltmeter
- Low-frequency oscillator
- Attenuator
- Oscilloscope

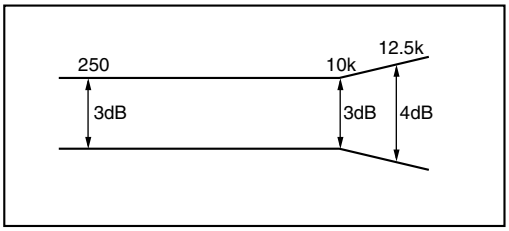
(6) Adjust both right and left channels unless other wise specified.
(7) Turn the DOLBY NR switch off unless otherwize specified.
(8) Warm up the unit for several minutes before adjustment. In particular, be sure to warm up the unit in the REC/PLAY mode for 3 to 5 minutes before starting recording/playback frequency characteristics adjustment.
(9) Always follow the indicated adjustment order. Otherwise, a complete adjustment may not be achieved.

■ List of Adjustments

● Playback Section
(1) Tape Speed Confirmation
(2) Head Azimuth Adjustment
(3) Playback Level Adjustment

● Recording Section
(1) Recording Bias Adjustment
(2) Recording Level Adjustment

PLAY BACK



RECORDING

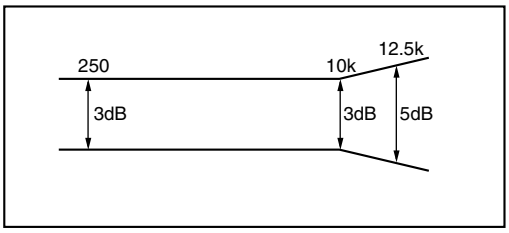


Fig. 6-1 Frequency Characteristics

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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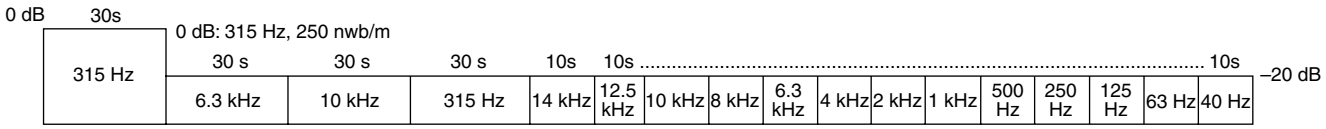


Fig. 6-2 Test Tape NCT– 112

6.1.2 Playback and Recording section

■ Playback Section

(1) Tape Speed Confirmation

No.	Mode	Input Signal/Test Tape	Adjustment Points	Measurement Points	Adjustment Value	Remarks
1	PLAY	NCT-111 (3 kHz)	VR2701 (DECK ASSY) (Refer to Fig. 6-3)	P1 R(CN2507) (DECK ASSY)	3000 Hz $^{+10}_{-10}$ Hz	FWD adjustment REV Confirmation (3000 Hz $^{+40}_{-40}$ Hz)

(2) Head Azimuth Adjustment

- This unit is equipped with auto tape selector.
- Do not switch between forward and reverse operation with the screwdriver inserted.

No.	Mode	Input Signal/Test Tape	Adjustment Points	Measurement Points	Adjustment Value	Remarks
1	PLAY	NCT-110 test tape (Playback: 10 kHz, –20 dB)	Head azimuth adjustment Screw (Refer to Fig. 6-3)	P3 L (CN2507) P1 R (CN2507) (DECK ASSY)	Max. Playback signal level	After adjustment, apply silicon bond to the head azimuth adjustment screw.

(3) Playback Level Adjustment

- Since this adjustment determines playback DolbyNR level, Perform it carefully.

No.	Mode	Input Signal/Test Tape	Adjustment Points		Measurement Points	Adjustment Value	Remarks
1	PLAY	NCT-112 test tape (Playback: 315 Hz, 4 dB)	L ch	VR2301	P3 L (CN2507) P1 R (CN2507) (DECK ASSY)	–3.7 dBV	
			R ch	VR2302			

■ Recording Section

(1) Recording Bias Adjustment

- After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

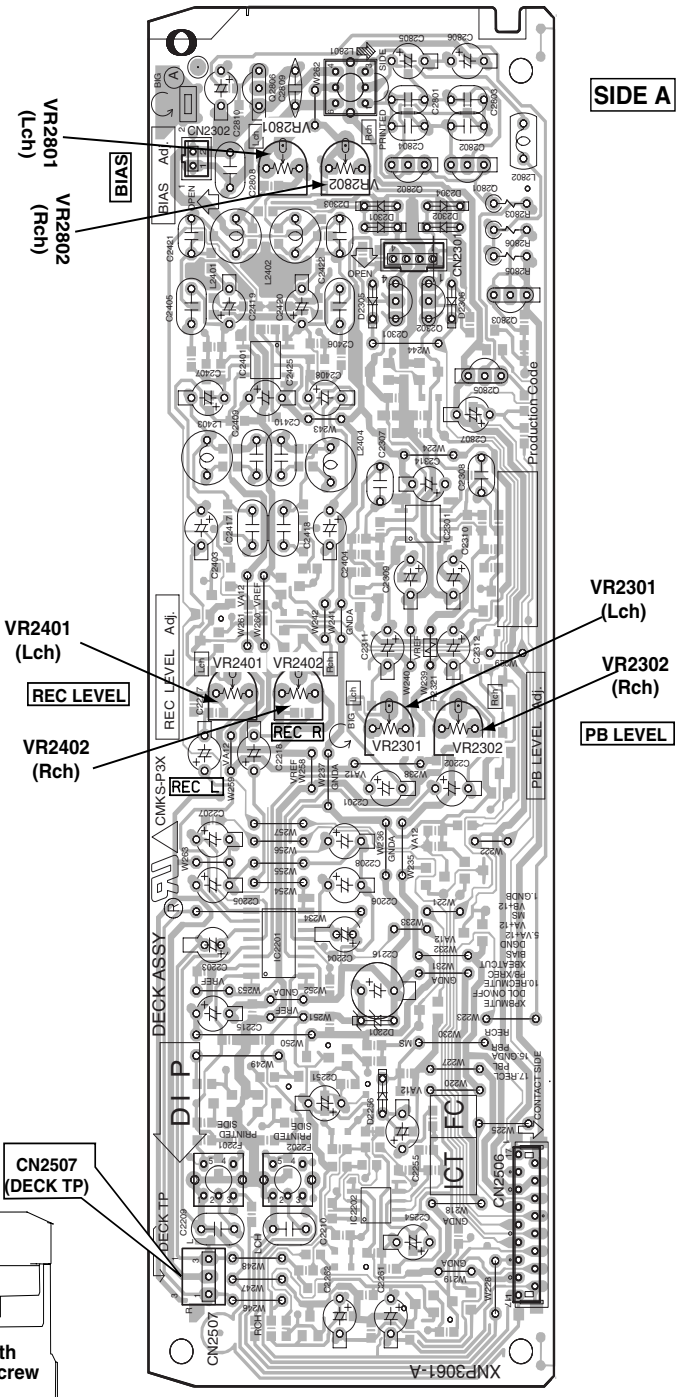
No.	Mode	Input Signal/Test Tape	Adjustment Points		Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315Hz signal to the LINE - IN terminal. *	Input signal level		P3 L (CN2507) P1 R (CN2507) (DECK ASSY)	–23.7 dBV	
2	REC → PLAY	Load the STD–633 test tape and record/playback the 315Hz and 10kHz signals. (see the Note below)	L ch	VR2801		Repeat adjustment until playback level of the 10kHz signal is within 0dBV ±0.5dB from that of the 315Hz signal.	
			R ch	VR2802			

Note: Set the 10kHz input signal level to the same value as the 315Hz input signal level of step 1.

(2) Recording Level Adjustment

No.	Mode	Input Signal/Test Tape	Adjustment Points		Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315Hz signal to the LINE- IN terminal.*	Input signal level		P3 L (CN2507) P1 R (CN2507) (DECK ASSY)	–7.7 dBV	
2	REC → PLAY	STD–633 test tape and record/ playback the 315Hz signal.	L ch	VR2401		Repeat recording, playback and adjustment until playback level of the 315Hz signal becomes –7.7dBV±0.5dB.	
			R ch	VR2402			

● DECK ASSY D



● MECHANISM UNIT

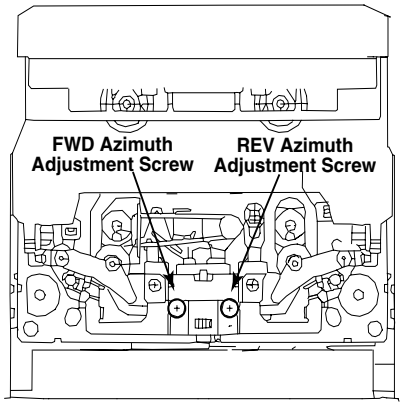


Fig. 6-3 Adjustment and Measurement Points

6.2 TUNER SECTION

■ AM Tuner Section

• There is no adjustment in the AM tuner.

■ FM Tuner Section

• Set the mode selector to FM BAND.

• Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dBμV)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point Vtm) gets within 0 ± 50mV.

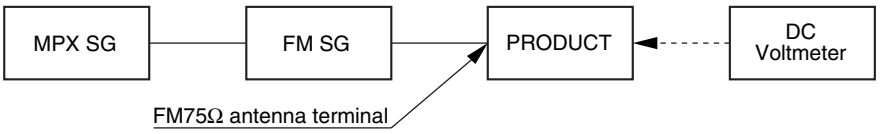


Fig.1 Adjustment Wiring Diagram

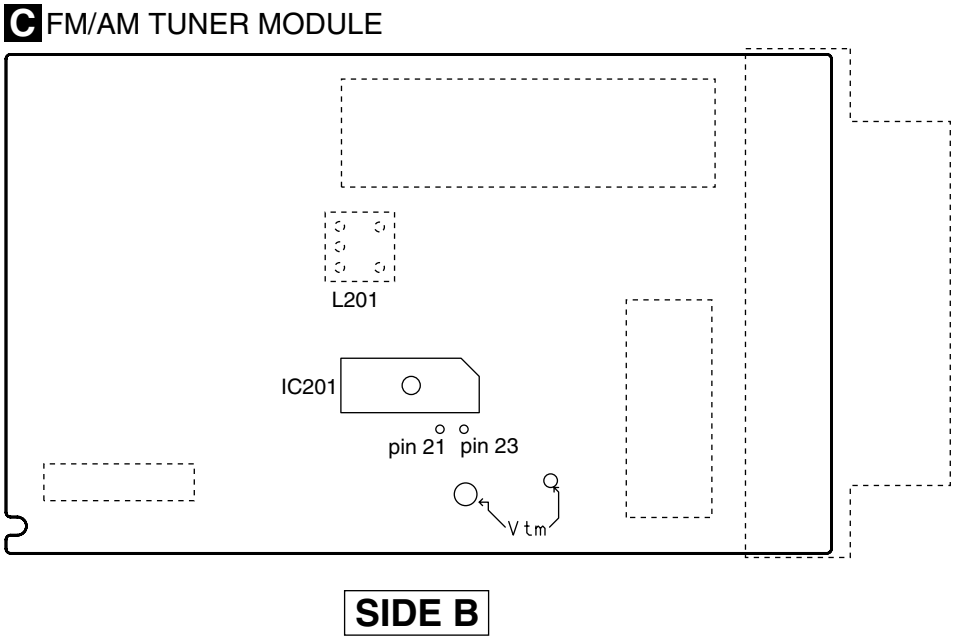


Fig.2 Adjustment Point

6.3 DVD SECTION ADJUSTMENT ITEMS ana LOCATION

■ Adjustment Items

[Mechanism Part]

❶ Tangential and Radial Height Coarse Adjustment

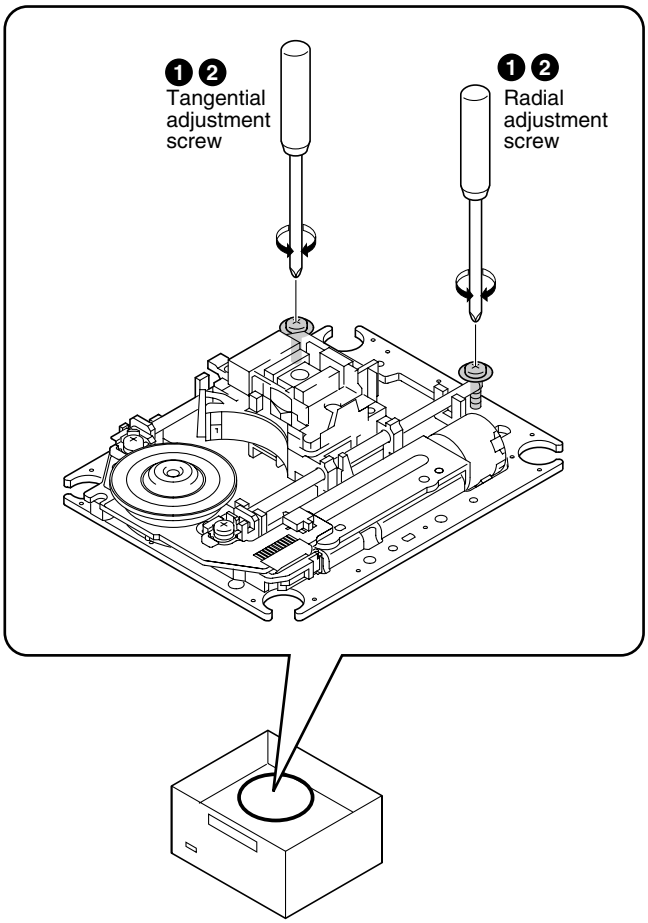
❷ DVD Jitter Adjustment

[Electrical Part]

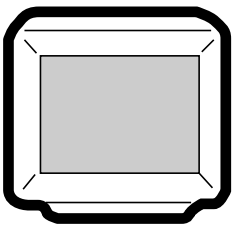
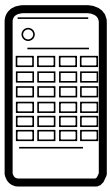
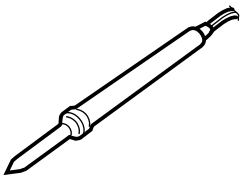
Electrical adjustments are not required.

■ Adjustment Points (Mechanism Part)

Cautions: After adjustment, adjustment screw locks with the Screw tight.



6.4 JIGS and MEASURING INSTRUMENTS

⊕ Screwdriver (large)	⊕ Screwdriver (medium)	 TV monitor	 Test mode remote control unit (GGF1381)
⊕ Precise screwdriver	DVD test disc (GGV1025)	 Soldering iron	Screw tight (GYL1001)

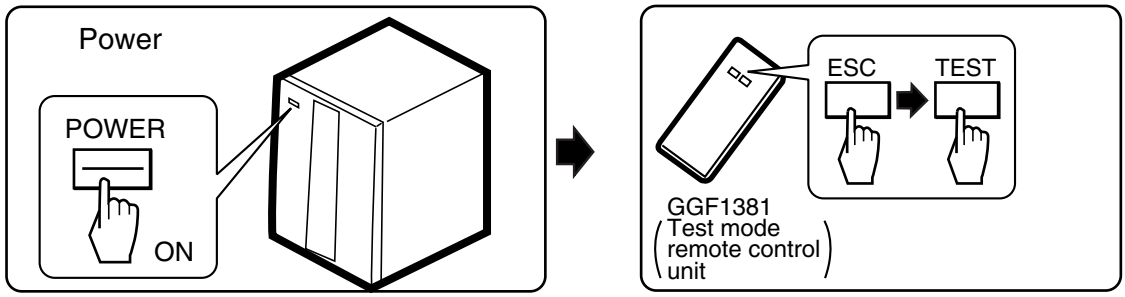
6.5 NECESSARY ADJUSTMENT POINTS

When		Adjustment Points	
■ Exchange Parts of Mechanism Assy			
Exchange the Pickup	Mechanical point	❶, ❷	＊ After adjustment, screw locks with the Screw tight.
	Electric point	———	
Exchange the Traverse Mechanism	Mechanical point	———	
	Electric point	———	
Exchange the Spindle Motor	Mechanical point	❷	＊ After adjustment, screw locks with the Screw tight.
	Electric point	———	
■ Exchange PCB Assy			
Exchange PC Board LOAB and DVDM ASSY	Mechanical point	———	
	Electric point	———	

6.6 TEST MODE

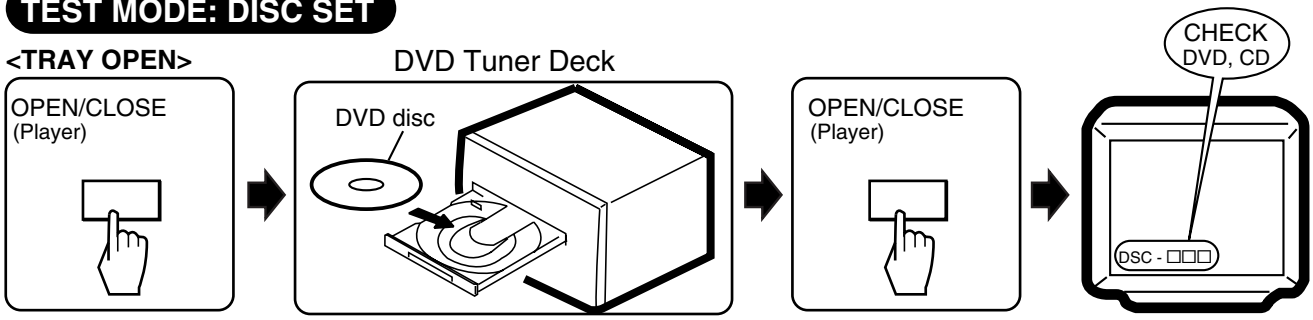
• The TEST MODE functions that are used only during adjustment are described here. For details, see "7.1.1 TEST MODE".

TEST MODE: ON



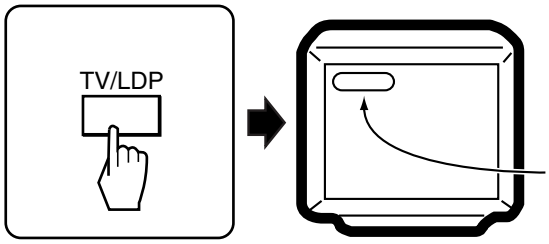
TEST MODE: DISC SET

<TRAY OPEN>



TEST MODE: PLAY

<PLAY>

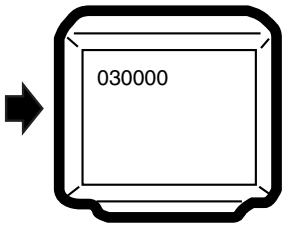


CAUTION:
Perform only trace, video and audio outputs are nothing.

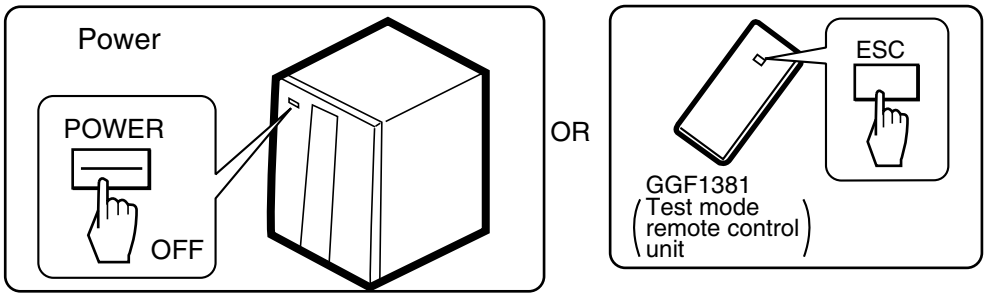
< When playback with the target address of disc (DVD)>

For example, when playback with # 30000

During PLAY [+10] ➡ [3] ➡ [0] ➡ [0] ➡ [0] ➡ [0] ➡ [CHP/TIM] Press keys in order



TEST MODE: OFF

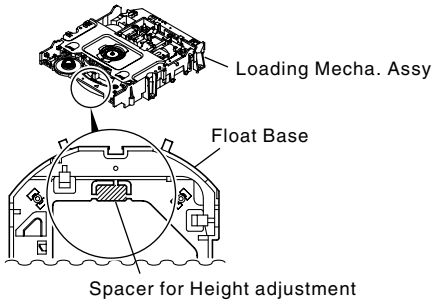


6.7 MECHANISM ADJUSTMENT

1 Tangential and Radial Height Coarse Adjustment

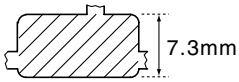
START

- Remove the Loading Mecha. Assy.
- Remove a Spacer for height adjustment attached to the back side (shaded area) of the Loading Mecha. Assy (Float Base) with nippers.

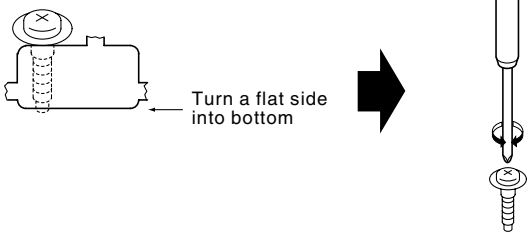


Note:
Before removing the flexible cable for the pickup, soldering of the pickup circuit is necessary.
For details, see "7.1.13 DISASSEMBLY".

Cautions:
Because there is not a Spacer for height adjustment in adjustment after the second time, will keep it at need.
(This parts is Traverse mechanism exclusive use of a model for 2003 years)



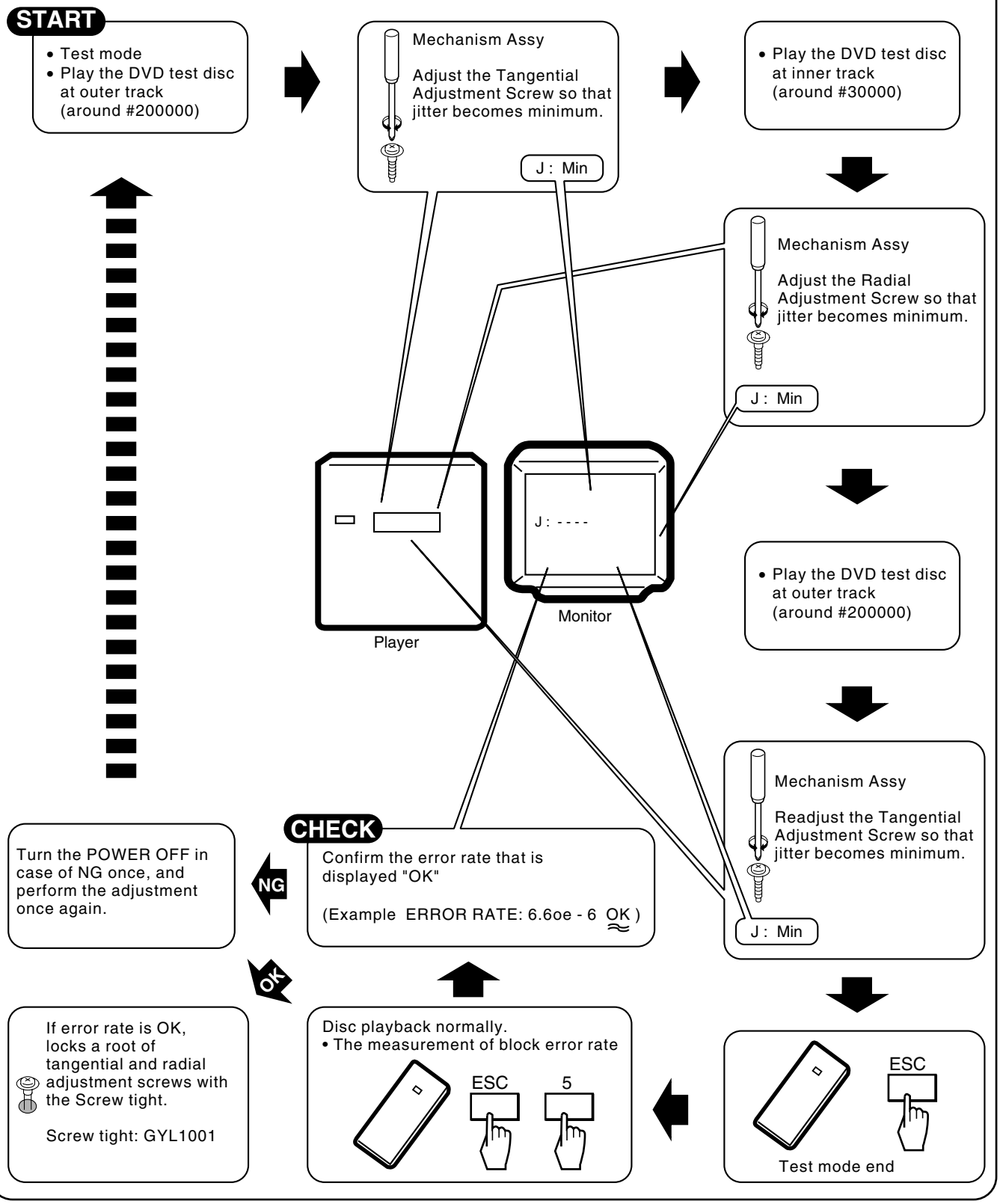
Put a spacer between a Tangential (or Radial) adjustment screw and Mechanism Base and turn each screw to adjust the height. (Refer to "6.3 ADJUSTMENT ITEMS AND LOCATION".)



2 DVD Jitter Adjustment

- Playback method of inner and outer address for the purpose is refererd to "6.4 TEST MODE".
- Jitter indication of the monitor is refererd to "7.1.2 DISPLAY SPECIFICATION OF THE TEST MODE".

Use disc: GGV1025


START
• Test mode
• Play the DVD test disc at outer track (around #200000)
Mechanism Assy
Adjust the Tangential Adjustment Screw so that jitter becomes minimum.
J : Min
• Play the DVD test disc at inner track (around #30000)
Mechanism Assy
Adjust the Radial Adjustment Screw so that jitter becomes minimum.
J : Min
J : ----
Player
Monitor
• Play the DVD test disc at outer track (around #200000)
Mechanism Assy
Readjust the Tangential Adjustment Screw so that jitter becomes minimum.
J : Min
ESC
Test mode end
Disc playback normally.
• The measurement of block error rate
ESC
5
CHECK
Confirm the error rate that is displayed "OK"
(Example ERROR RATE: 6.6oe - 6 OK)
NG
Turn the POWER OFF in case of NG once, and perform the adjustment once again.
OK
If error rate is OK, locks a root of tangential and radial adjustment screws with the Screw tight.
Screw tight: GYL1001

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE

■ Test Mode Functional Specification

① Test mode entry

In the power ON state, press the [ESC] (A8-5F) key and [TEST / RANDOM] (A8-5E) key in order of the Test mode remote control unit.

- Light the all FL and LEDs, and goes out the FL and LEDs when pressing the keys of something.
- OSD displays test mode. Refer to the "7.1.2 DISPLAY SPECIFICATION OF THE TEST MODE".

② Release the Test mode

- Turn off the power.
- Press the [ESC] (A8-5F) key of the remote control unit and reset it.

③ Tray open / close

- Press the [REPEAT A-B] (A8 - 48) key of the remote control unit.
- Press the [OPEN / CLOSE] key of the main unit from the stop state.

④ Playback stop

1. Press the [REPEAT] (A8 - 44) key of the remote control unit from the playback state.
2. Press the [STOP] key of the remote control unit or main unit from the playback state.
   (Playback stops, but the loaded disc keeps rotating.)

⑤ LD ON

DVD : Press the [TEST] (A8-5E) and [1] (A8-01) keys in order, and turn on the laser diode (650n).
CD : Press the [TEST] (A8-5E) and [4] (A8-04) keys in order, and turn on the laser diode (780n).

⑥ Focus on / sweep

1. Lock the focus by pressing the [TEST] (A8-5E) and [2] (A8-02) keys in order.
2. Repeat focus sweep by pressing the [TEST] (A8-5E) and [3] (A8-03) keys in order.

⑦ Spindle FG servo

CAV : Press the [TEST] (A8-5E) and [5] (A8-05) keys in order,then rise up the spindle and FG servo becomes on.
CLV : Press the [TEST] (A8-5E) and [9] (A8-09) keys in order,then rise up the spindle and FG servo becomes on.

⑧ Tracking open / close

1. Open tracking by pressing the [STEP FWD] (A8-54) key of the remote control unit in the play state.
2. Close tracking by pressing the [STEP REV] (A8-50) key of the remote control unit in the play state.

⑨ Slider servo on/off

1. Turn on the slider servo by pressing the [TEST] (A8-5E) and [CX] (A8-0E) keys in order.
2. Turn off the slider servo by pressing the [TEST] (A8-5E) and [TV/LDP] (A8-0F) keys in order.

⑩ Slider in / out

Slider in : In the tracking off state, press the [SCAN REV] (A8-11) key of the remote control unit.
Slider out : In the tracking off state, press the [SCAN FWD] (A8-10) key of the remote control unit.

⑪ Play (perform only the ID search and trace to the specified location)

Press the [TV/LDP] (A8-0F) key of the remote control unit from the stop state.
Perform only trace, video and audio outputs are nothing.

⑫ Screen display ON/OFF

1. Turn off the display by pressing the [AUDIO] (A8-1E) key of the remote control unit.
2. Turn on the display by pressing the [DISPLAY] (A8-43) key of the remote control unit.

⑬ Search

1. Search address input entry

- It becomes the address input mode when pressing the [+10] (A8-1F) key. (Most significant digit of an address displays "<".)
- In this time, display the last address as the initial state.

2. Search address input

- Press the [0] to [9] (A8-00 to 09) keys of the remote control unit. In the DVD, set an address with hexadecimal.
- In the address input mode, turn to the hexadecimal input by pressing the [PROGRAM] (A8-4C) key (display a "∗" mark), and [1] to [6] keys are each input as A to F.
- Hexadecimal input and decimal input can switch with toggle.
- In case of CD, perform only the absolute time search.

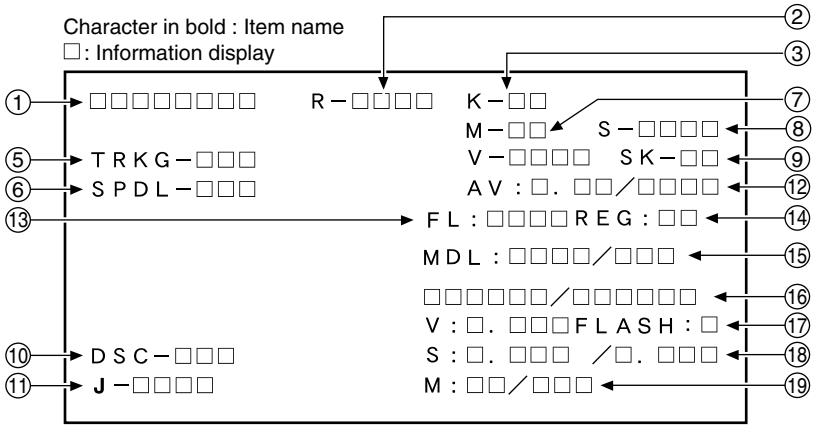
3. Search execution

- Press the [CHP/TM] (A8-13) key of the remote control unit.
- After the search, perform only trace and video and audio outputs are nothing.

4. Release the Search address input

- Clear the address by pressing the [CLEAR] (A8-45) key. Release the address input mode when pressing the [CLEAR] key once again.

Display Specification of the Test Mode



① **Address indication**
The address being traced is displayed in number.
(as for the DVD, indication of decimal number is possible.)
DVD : ID indication (hexadecimal number, 8 digits)
[＊＊＊＊＊＊＊＊]
CD : A-TIME (min. sec.) [0 0 0 0 ＊＊＊＊]

② **Code indication of remote control unit [R – ＊＊＊＊]**
In case of double code, display a 2nd code.

③ **Main unit keycode indication [K – ＊＊]**

⑤ **Tracking status [TRKG – ＊＊＊]**
Tracking on : [ON]
Tracking off : [OFF]

⑥ **Spindle status [SPDL – ＊＊＊]**
[OFF], [ACC/BRK], [CAV], [CLV]

⑦ **Mechanism (loading) position value [M – ＊＊]**
Unknown : [01] or [41]
Open state : [04]
Close state : [08]
During opening : [12]
During closing : [22]

⑧ **Slider position [S – ＊＊＊＊]**
In Side Switch ON : [01]
In Side Switch OFF : [00]

⑨ **Output video system [V – ＊＊＊＊]**
NTSC system : [NTSC]
PAL system : [PAL]
Automatic setting : [AUTO]

Scart terminal output [SK – ＊＊]
(Display only the WY model which can do the output setting of scart terminal.)
VIDEO : [00]
S-VIDEO : [01]
RGB : [02]

⑩ **Disc sensing [DSC – ＊＊＊]**
The type of discs loaded is displayed.
[DVD], [CD], [VCD], [ ]

⑪ **Jitter value [J – ＊＊＊＊]**

⑫ **Version of the AV-1 chip / version of firmware [AV: ＊＊ / ＊＊＊＊＊＊＊＊]**

⑬ **Version of the FL controller [FL: ＊＊＊＊]**

⑭ **Region setting of the player [REG: ＊]**
Setting value : [1] to [6]

⑮ **Destination setting of the FL controller [MDL: ＊＊＊＊ / ＊＊＊]**
Four characters in the front represent the type of model.
Three characters in the back represent the destination code.
J: /J, K: /KU, /KC, /KU/KC, R: /RL/RD, RAM : /RAM,
LB: /LB, WY: /WY

⑯ **Part number of the flash ROM and system controller [＊＊＊＊＊＊ / ＊＊＊＊＊＊]**

⑰ **Version of the flash ROM [V: ＊. ＊＊＊]**
Flash ROM size [FLASH = ＊＊]

⑱ **Revision of the system controller [S: ＊. ＊＊＊ / ＊. ＊＊＊]**
version . revision / build number of the ST core

⑲ **Revision of the DVD mechanism controller [M: ＊＊ / ＊＊＊]**
Kinds of version / firmware of the FE.
RAM or ROM

Functional Specification of the Shortcut key

Only during normal playback, the following shortcut keys can be assigned by pressing a required key after pressing the ESC key of the remote control unit. To quit, press the ESC key

Command Contents	Conditions	Remote Control Key Name	Remote Control Code
Memory clear and resion / revision indication		CLEAR (∗1)	A8-45
Average value measurement of DVD error rate		5 (∗1)	A8-05
CD error rate measurement		5 (∗1)	A8-05
Aspect : Pan scan		2	AF-A2
Aspect : Letter box		3	AF-A3
Aspect : Wide		4	AF-A4
Digital : AC3		5	AF-A5
Digital : AC-3 > PCM		6	AF-A6
Virtual surround : OFF	Only for models having the corresponding functions	7	AF-A7
Virtual surround : TruSurround		8	AF-A8
Digital output ON		REPEAT A	AF-E8
Digital output OFF		REPEAT B	AF-E4
DTS Digital output ON		STEP FWD	AF-B7
DTS Digtal output OFF		STEP REV	AF-B8
Scart terminal output : VIDEO	WY, models equipped with Scart terminal	AUDIO	AF-BE
Scart terminal output : S-VIDEO		SUBTITLE	AF-36
Scart terminal output : RGB		ANGLE	AF-B5
Progressive OFF	Only for progressive models	R_SKIP	A3-9D
Progressive ON		F_SKIP	A3-9C
Audio 5.1 CH ON	Only for models having the corresponding functions	KD_ENTER	AF-EF
FL indication of EDC / ID error		CX (∗1)	A8-0E
FL indication of ID number		STEREO (∗1)	A8-4A
ZOOM ON (X4)		ZOOM	AF-37
ZOOM OFF		< X3 (∗1)	A8-59
Service mode indication (error rate indication, etc.)		CHP/TIM (∗1)	A8-13
Model information indication		CHAP (∗1)	A8-40
Background color change		+10 (∗1)	A8-1F
Audio last stage mute ON		9	AF-A9
Audio last stage mute OFF		0	AF-A0
Title search Input mode IN Title No. input Search execution		SIDE A (∗1) Numbers (∗1) PLAY (∗1)	A8-4D A8-00 to A8-09 A8-17
Region confimation mode		AUDIO (∗1) Numbers (∗1)	A8-1E A8-01 to A8-08

∗1 : Test mode remote control unit

• Service mode indication (ESC + CHP/TIM keys)

ID Address
The error rate is always displayed in exponential notation, e.g., ∗.∗ ∗ e - ∗, for both DVDs and CDs.
EDC/ID/AV 1 error history (ID Address, EDC/ID/AV 1 Error, last eight errors)
Self-diagnosis functions (If a mechanical error has occurred, the mechanical-error history is also displayed.)

• Calculation of the average error rate (ESC + "5" [Test mode remote control unit] keys)

The average of the last eight error rates is calculated and indicated in exponential notation. After the calculation is completed, "OK" or "NG" is displayed. If "NG" is displayed, the disc tray will open (for both DVDs and CDs)
For DVDs: OK with 5.0e-4 or less, for CDs: OK with 7.6e-3 or less

• Indication of model information (ESC + CHAP keys)

The items from 12 to 19 of the TEST MODE Indications are displayed. However, in the indications, S in the standard test mode is changed to B.E VERSION, and M is changed to F.E VERSION. For details, see 7.1.4.

• Change of the background colors (ESC + "+10" [Test mode remote control unit] keys)

Every time the keys are pressed, the background color is changed between blue and green alternately.
(The green background is used in SETUP NAVIGATOR.)

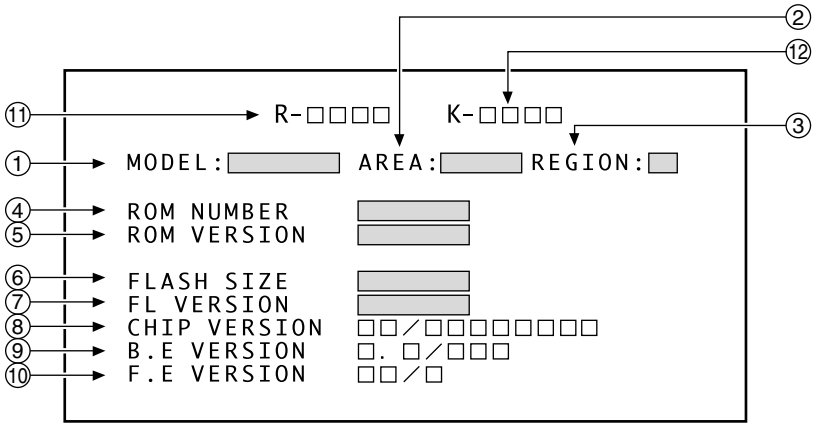
• Region confirmation mode (ESC + AUDIO [Test mode remote control unit] + "1"-"8" [Test mode remote control unit] keys)

After you press the AUDIO key while holding the ESC key pressed and then input the region number, if the number is different from that set in the unit, an error message is displayed, and the tray opens.

Specification of Model Information Display

To display model information : Press the ESC key then the CHAP key.
To close the model information display : Press the ESC key.

• Display contents



Character in bold : Item name
□: Information display

① **Model name**
Display it according to model information set from the FL controller.
② **Destination indication**
Display it according to model information set from the FL controller.
③ **Region No.**
④ **Part number**
⑤ **ROM version**
⑥ **Flash size**
⑦ **FL controller version**

⑧ **CHIP VERSION**
Version of ST CHIP
CUT ID / JTAG ID
(two columns) (eight columns)
⑨ **B.E VERSION**
Version of BACK END (version of ST core software)
□.□ /□□□
softwareVersion . softwareRevision / buildNumber
⑩ **F.E VERSION**
Version of FRONT END (version of mechanism controller CHIP software)
□□/ □
MainVersion / Kinds of firmware RAM or ROM
⑪ **Remote control code**
⑫ **Key code of Main unit**

■ Functional Specification of the Service Mode

• EDC / ID error FL display (shortcut function)

EDC/ID error is displayed on the FL display if you press the CX key while holding the ESC key on the TEST MODE remote control unit pressed. To quit while an EDC/ID error is displayed, press the ESC key.

FL display

0 0 / 0 0 / 0 1 ＊

＊: Lights when an AV1 error was generated at least once.

Number of sites where an EDC or ID error was generated

Number of retrials while an ID error is being generated
(only displayed at the moment when an error is being generated),
and for the ST models, the number of retrials made for the latest ID error

Number of retrials while an EDC error is being generated
(only displayed at the moment when an error is being generated),
and the number of retrials made for the latest EDC error

• Display during Service Mode

To enter Service Mode, press the CHP/TIM key while holding the ESC key pressed.
To quit, press the ESC key.

Service mode display

① ID Address

② Error rate (always displayed), in exponential notation

＊＊ (＊＊＊＊)

Number of error rates

02: Indicates use of the same method as for the 02 models,
No indication: Indicates use of the method used for models before the 02 model

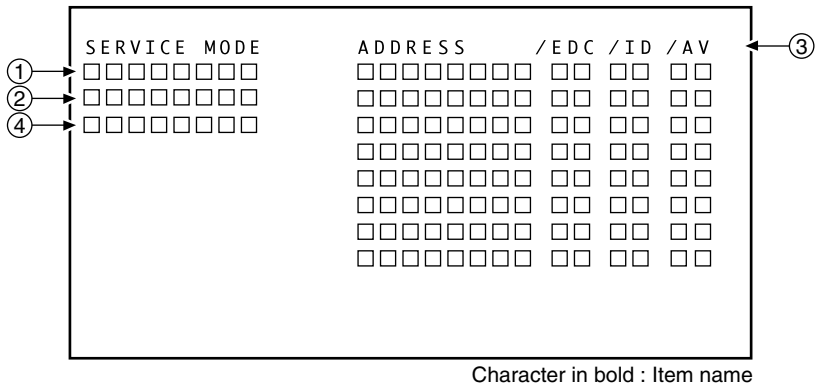
③ EDC/ID/AV1 error history (ID Address, EDC/ID/AV1 errors, last eight errors)

Description of AV1 errors
BIT0: In BE code, an EDC error, FEC I/F buffer overflow, or "not valid" is generated (B.E error)
BIT1: In BE code, the ID is different from that of the target (B.E error)
BIT2: An error was generated in FE-added 2-byte EDC data. (F.E error)

④ Self-diagnosis functions

Whether F.E is normal or not is checked.
FE OK: No abnormality in F.E
FE Error: Abnormality is recognized in F.E.
Pressing the CHP/TIM key again displays the mechanical error history. Each press of the CHP/TIM key changes the displays between the mechanical error history and the Service Mode display.
For details on the mechanical error history, refer to the addendum.

Indication plan contents



AV1 ERR	BIT 2	1	0
00	0	0	0
01	0	0	1
02	0	1	0
03	0	1	1
04	1	0	0
05	1	0	1
06	1	1	0
07	1	1	1

Character in bold : Item name
□: Information display

7.1.2 DISPLAY OF THE MECHANISM ERROR HISTORY

■ Mechanical Error History

Only if a mechanical error (FE error) has been generated, a mechanical error history containing up to the last eight errors is displayed if you press the CHP/TIM key in Service Mode.
Errors are displayed in descending order, with the latest one at the top.

Description of the mechanical error history

① Error number
The first two digits are for the error code, and the second two digits are for the servo state.

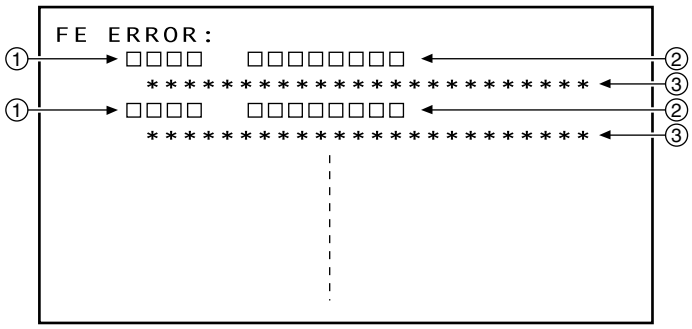
□□□□
Servo State
Error Code

② Error number
The elapsed time from the time when the system was turned on until an error was generated is displayed.
Note: If a later error time is shorter than the previous error time, it means that the unit was turned off then on again.

③ Description of errors
Error messages are displayed.
Example: If the error code is 0x13 (Focus lost timeout) and the servo state is 0x05 (Disc judge), the message becomes "Focus lost timeout in Disc judge."

Note: When an error has been generated, if the servo state is "Disc judge," the disc tray opens, and if the servo state is other than "Disc judge," the unit stops (excluding a case of a device error with the error code 0xd∗).

Indication contents



• List of the error codes

FOCUS ERROR	0x0∗	**FOCUS TIMEOUT**	0x1∗
Focus on error	0x01	Focus on timeout	0x11
Focus off error	0x02	Focus off timeout	0x12
Focus lost error	0x03	Focus lost timeout	0x13
Focus balance adjust error	0x04	Focus balance adjust timeout	0x14
Focus gain adjust error	0x05	Focus gain adjust timeout	0x15
Focus sweep error	0x06	Focus sweep timeout	0x16
Focus reflection error	0x07	Focus reflection timeout	0x17
TRACKING ERROR	0x2∗	**TRACKING TIMEOUT**	0x3∗
Tracking on error	0x21	Tracking on timeout	0x31
Tracking off error	0x22	Tracking off timeout	0x32
Tracking lost error	0x23	Tracking lost timeout	0x33
Tracking balance adjust error	0x24	Tracking balance adjust timeout	0x34
Tracking gain adjust error	0x25	Tracking gain adjust timeout	0x35
STEPPING ERROR	0x4∗	**STEPPING TIMEOUT**	0x5∗
Stepping on error	0x41	Stepping on timeout	0x51
Stepping off error	0x42	Stepping off timeout	0x52
Stepping lost error	0x43	Stepping lost timeout	0x53
Stepping move error	0x44	Stepping move timeout	0x54
SPINDLE ERROR	0x6∗	**SPINDLE TIMEOUT**	0x7∗
Spindle on error	0x61	Spindle on timeout	0x71
Spindle off error	0x62	Spindle off timeout	0x72
Spindle lost error	0x63	Spindle lost timeout	0x73
Spindle CAV error	0x64	Spindle CAV timeout	0x74
Spindle CLV error	0x65	Spindle CLV timeout	0x75
ACQUISITION ERROR	0x8∗	**ACQUISITION TIMEOUT**	0x9∗
PLL lost error	0x83	PLL lost timeout	0x93
DECODER ERROR	0xa∗	**DECODER TIMEOUT**	0xb∗
ID lost error	0xa3	ID lost timeout	0xb3
DEVICE ERROR	0xd∗		
SRAM error	0xd1		

• List of the servo states

0x00	Reset
0x01	Stop (inside position)
0x02	Stop (any position)
0x03	Braking for stop
0x04	New disc
0x05	Disc judge
0x06	Reserved 1
0x07	Playing
0x08	Start up
0x09	Seeking
0x0A	Pausing
0x0B	Reading BCA
0x0C	Reserved 2
0x0D	
0x0E	Tray open
0x0F	Tray moving

Note : 0 x □ □
code
(Only this part is displayed to a display)

Error Code Table

Error Name	No.	Causes	Check Item	Possibility of Trouble	Remarks
FOCUS ERROR (0 x 0*)					
Focus on error	0 x 01	Focus on could not be completed	Are not there a dirt or a scratch in the Disc? Does LD become weak? Does the lens move up and down?	1. Pickup 2. Driver 3. Front End IC	
Focus off error	0 x 02	Focus off could not be completed	Unknown		
Focus lost error	0 x 03	Focus servo is lost	Are not there a dirt or a scratch in the Disc? Does LD become weak?	1. Pickup	
Focus balance adjust error	0 x 04	AFB on could not be completed			
Focus gain adjust error	0 x 05	Focus AGC could not be completed			
Focus sweep error	0 x 06				
Focus reflection error	0 x 07	Dimensions of S curve did not reach to the aim value	Does LD become weak?	1. Pickup	
FOCUS TIMEOUT (0 x 1*)					
Focus on timeout	0 x 11	Did timeout at focus on	Are not there a dirt or a scratch in the Disc? Does LD become weak? Does the lens move up and down?	1. Pickup 2. Driver 3. Front End IC	
Focus off timeout	0 x 12	Did timeout at focus off			
Focus lost timeout	0 x 13	Did timeout at focus backup			
Focus balance adjust timeout	0 x 14	Did timeout at AFB			
Focus gain adjust timeout	0 x 15	Did timeout at AGC			
Focus sweep timeout	0 x 16				
TRACKING ERROR (0 x 2*)					
Tracking on error	0 x 21	Tracking on could not be completed		1. Pickup 2. Driver 3. Front End IC	
Tracking off error	0 x 22	Tracking off could not be completed			
Tracking lost error	0 x 23	Tracking servo is lost		1. Pickup	
Tracking balance adjust error	0 x 24	ATB could not be completed		1. Pickup	
Tracking gain adjust error	0 x 25	AGC could not be completed		1. Pickup	
Tracking jump error	0 x 26	Tracking jump could not be completed			
TRACKING TIMEOUT (0 x 3*)					
Tracking on timeout	0 x 31	Did timeout at tracking on	Are not there a dirt or a scratch in the Disc?	1. Pickup 2. Driver 3. Front End IC	
Tracking off timeout	0 x 32	Did timeout at tracking off			
Tracking lost timeout	0 x 33	Did timeout at tracking backup	Are not there a dirt or a scratch in the Disc?	1. Pickup	
Tracking balance adjust timeout	0 x 34	Did timeout at ATB		1. Pickup	
Tracking gain adjust timeout	0 x 35	Did timeout at AGC		1. Pickup	
Tracking jump timeout	0 x 36	Did timeout at tracking jump			
STEPPING ERROR (0 x 4*)					
Stepping on error	0 x 41	Stepping on could not be completed		1. Pickup 2. Driver 3. Front End IC	
Stepping off error	0 x 42	Stepping off could not be completed			
Stepping lost error	0 x 43	Stepping servo is lost			
Stepping move error	0 x 44	Stepping could not move	Do move to inner and outer periphery of the stepping in the test mode? Do indicate "S-04" at the most inner periphery of the stepping?	1. Stepping motor 2. Inside switch 3. Driver	
STEPPING TIMEOUT (0 x 5*)					
Stepping on timeout	0 x 51	Did timeout at stepping on		1. Pickup 2. Driver 3. Front End IC	
Stepping off timeout	0 x 52	Did timeout at stepping off			
Stepping lost timeout	0 x 53	Did timeout at stepping backup			
Stepping move timeout	0 x 54	Did timeout at stepping movement	Do move to inner and outer periphery of the stepping in the test mode? Do indicate "S-04" at the most inner periphery of the stepping?	1. Stepping motor 2. Inside switch 3. Driver	

Error Name	No.	Causes	Check Item	Possibility of Trouble	Remarks
SPINDLE ERROR (0 x 6∗)					
Spindle on error	0 x 61	Spindle on could not be completed			
Spindle off error	0 x 62	Spindle off could not be completed			
Spindle lost error	0 x 63	Spindle lost control			
Spindle CAV error	0 x 64	CAV on could not be completed			
Spindle CLV error	0 x 65	CLV on could not be completed			
SPINDLE TIMEOUT (0 x 7∗)					
Spindle on timeout	0 x 71	Did timeout at spindle on			
Spindle off timeout	0 x 72	Did timeout at spindle stop			
Spindle lost timeout	0 x 73	Did timeout at spindle backup	Are not there a dirt or a scratch in the Disc? Is FG output from the driver?	1. Spindle motor 2. Spindle driver	
Spindle CAV timeout	0 x 74	Did timeout at CAV on	Is spindle rotating? Is FG output from the driver? Is the PDM output from Front End?	1. Spindle motor 2. Spindle driver 3. Front End IC	
Spindle CLV timeout	0 x 75	Did timeout at CLV on			
ACQUISITION ERROR (0 x 8∗)					
PLL lost error	0 x 83	PLL is lost	Are not there a dirt or a scratch in the Disc?	1. Pickup 2. Front End IC	
ACQUISITION TIMEOUT (0 x 9∗)					
PLL lost timeout	0 x 93	Did timeout at PLL backup	Are not there a dirt or a scratch in the Disc?	1. Pickup 2. Front End IC	
DECODER ERROR (0 x a∗)					
ID lost error	0 x a3	ID is not readable	Are not there a dirt or a scratch in the Disc?	1. Pickup 2. Front End IC	
DECODER TIMEOUT (0 x b∗)					
ID lost timeout	0xb3	Did timeout at ID backup	Are not there a dirt or a scratch in the Disc?	1. Pickup 2. Front End IC	
DEVICE ERROR (0 x d∗)					
SRAM error	0 x d1	Cannot access SRAM	Power supply of SRAM Is not bus line short-circuiting?	1. SRAM 2. Front End IC 3. Front End-SRAM bus line	
FAILSAFE (0 x e∗)					
Unexpected error	0 x e1	Unexpected error		1. software runaway 3. Software bug	

7.1.3 ID NUMBER AND ID DATA SETTING

Caution:
For the DVD players compatible with DVD-RW, for playback of a DVD-RW disc (CPRM), it is necessary that an individual ID number and ID data are set for each player. If the ID number and ID data be not properly set in the manner described below, future operations cannot be guaranteed. The ID number is written on the yellow label at the rear panel of the player.
If there is no yellow label, before downloading FLASH ROM, take note of the ID number set following the procedures outlined in "ID Number Confirmation Mode" on the next page.

Note: Enter ID numbers while the unit is in Stop mode so that the values set will be immediately written to the flash ROM. The following operations are all made with the TEST MODE remote control unit (GGF1381).

■ ID Number Input Mode

① To enter ID Number Input Mode, with no ID number set, such as in a case of immediately after upgrading the firmware, press the ESC key then the STEREO key.

Note: If a previous ID number and ID data, such as a factory-preset ID number and ID data, are maintained, the unit enters ID Number Confirmation Mode when the above keys are pressed. However, if only an ID number is maintained, the unit enters ID Data Input Mode.

② Enter a 9-digit ID number. The ID number is also displayed on the FL display.

③ By pressing the CLEAR key without having input a number, you can exit this mode. Each press of this key after a number has been input deletes one digit.

```
[Player's ID Number Setting]
  ID Number ?
② > - - - - - - - - -

③ <CLEAR>  Exit


  Input ID Number !
```

④ After entering all 9 digits, if you press the PLAY key, the unit enters Compare mode. Enter the same ID number again. Only if your two input numbers match, the ID number is set. Compare mode helps eliminate mistyping of the ID number.

Note: If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ② without doing anything else.

⑤ After entering all 9 digits, if you press the SEARCH key, the unit unconditionally sets the input number as the ID number. Then the unit automatically enters Player's Data Input Mode. (The SEARCH key is not accepted after all 9 digits have been entered.)

```
[Player's ID Number Setting]
  ID Number ?
  > 0 0 0 0 0 0 0 0 1   OK ?

④ <PLAY>       Compare Mode
⑤ <SEARCH>  Enter

  Input ID Number !
```

⑥ This display appears when the PLAY key is pressed in Step 4. Enter a 9-digit number to compare. The number is also displayed on the FL display.

⑦ By pressing the CLEAR key without having input a number, the unit returns to Step ② without doing anything else. Each press of this key after a number has been input deletes one digit.

```
[Player's ID Number Setting]
  ID Number ?
     0 0 0 0 0 0 0 0 1
  Compare
⑥ > * * * * * * * * *


  Input ID Number !
```

⑧ After entering all 9 digits, if you press the PLAY key, the unit compares the numbers input in Steps ② and ⑥, and only if the numbers match, that number is set as the ID. Then the unit automatically enters ID DATA Input Mode. If the numbers do not match, the disc tray is opened, and the unit exits ID Number Input Mode.

Note: If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ⑥ without doing anything else.

```
[Player's ID Number Setting]
  ID Number ?
     0 0 0 0 0 0 0 0 1
  Compare
   > 0 0 0 0 0 0 0 0 1 OK?

⑧ <PLAY>  Enter

  Input ID Number !
```

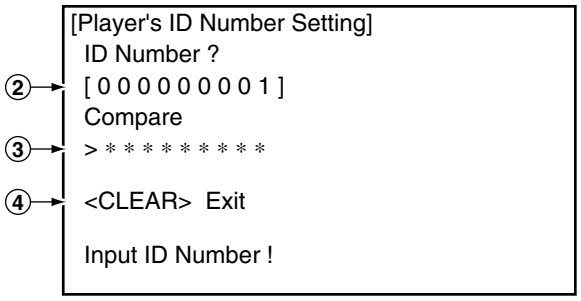
ID Number Confirmation Mode

① To enter ID Number Confirmation Mode after the ID number and the ID data are set, press the ESC key then the STEREO key.

② The ID number already set is displayed.
(It is also displayed on the FL display.)

③ Enter a 9-digit number for comparison. This is not required when you only wish to check the ID number visually.
(The number is also displayed on the FL display.)

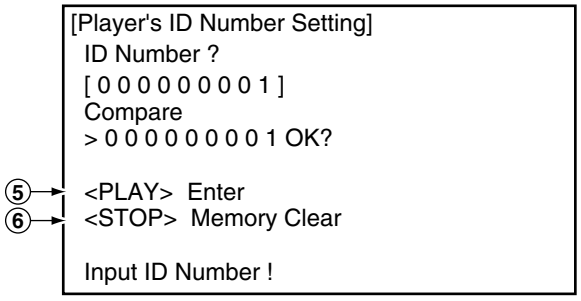
④ By pressing the CLEAR key without having input a number, you can exit this mode. Each press of this key after a number has been input deletes one digit.



⑤ After entering all 9 digits, if you press the PLAY key, the unit compares the number entered in Step ② with the ID number set, and only if the numbers match, the unit automatically exits ID Number Confirmation Mode. If an ID data has not been entered, the unit enters ID DATA Input Mode. If the numbers do not match, the disc tray is opened, and the unit exits ID Number Confirmation Mode.

Note: If you press the PLAY button before inputting a 9-digit ID number, the unit returns to Step ④ without doing anything else.

⑥ After entering all 9 digits, if you press the STOP key, the unit compares the number entered in Step ③ with the ID number set, and only if the numbers match, the unit automatically deletes the ID number and exits this mode. If the numbers do not match, the disc tray is opened, and the unit exits this mode. (The STOP key is not accepted after all 9 digits have been entered.)



• Indication of an ID number already set

An ID number already set is displayed in the following cases:

1) When the ESC key then the CLEAR key are pressed, user settings are cleared, then the ID number set is displayed on the screen. In this case, the ID number is not displayed on the FL display.
2) When the unit enters ID Number Confirmation Mode by your pressing the ESC key then the CLEAR key, the ID number set is displayed. In this case, the ID number is also displayed on the FL display.
   If you only need to confirm the ID number, you can exit this mode by pressing the CLEAR key or turning off the power.

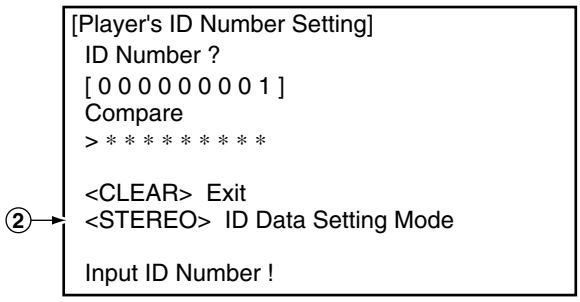
• Indication when no ID number is set

If no ID number is set, the message "No ID Number!" flashes on the screen and FL display for a few seconds after the power is turned on or during Stop mode.

ID DATA Input Mode

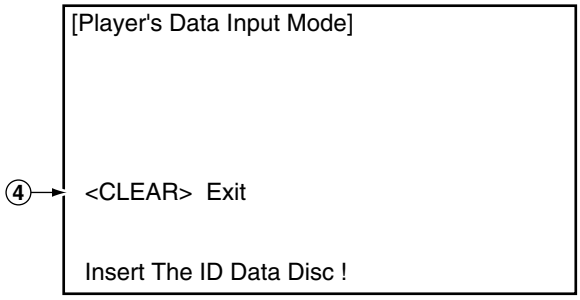
① To enter ID DATA Input Mode, with the ID number set, press the ESC key then the STEREO key.

② When the STEREO key is pressed, the unit enters ID DATA Input Mode.



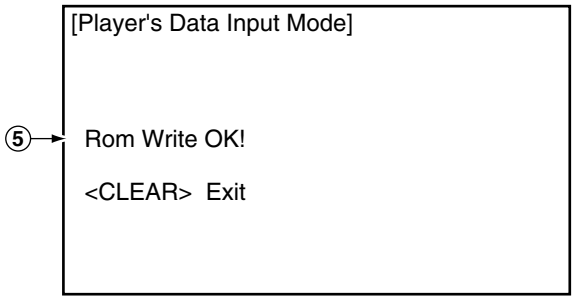
③ If the DVD DATA DISC (GGV1085) is loaded in this mode, the unit automatically starts reading the data.
(If the ID DISC has already been loaded, the unit does not start reading the data. In this case, open then close the tray.)

④ To exit this mode, press the CLEAR key. While data are being read from the DVD DATA DISC (GGV1085), you cannot exit this mode.

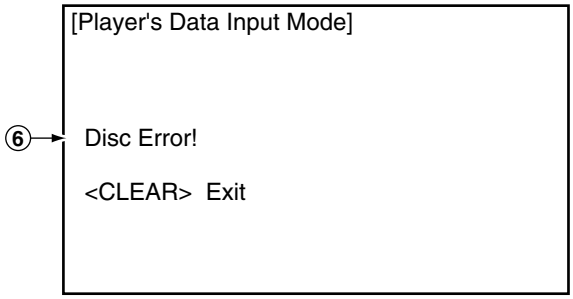


⑤ When writing of the data read from the disc to flash ROM is completed, "Rom Write OK!" is displayed. After seeing this message, you can exit this mode by pressing the CLEAR key.

Note: Whether or not the data have been written to flash ROM can be confirmed by watching for the message "Rom Write OK!" being displayed after the disc is read.



⑥ If the data cannot be read from the disc, "Disc Error!" is displayed on the screen, and the disc is ejected.



• Indication when the data have not been set
If no ID data are set after the ID number is changed, the message "NO ID DATA" flashes on the screen and FL display for a few seconds after the power is turned on or during Stop mode.

7.1.4 TROUBLE SHOOTING

Microcomputer Section (IF/AF Assy : IC5501)

Symptom	Possible Cause	Check Method
• The unit cannot be turned on.	The microcomputer was not reset.	Check if the level of the terminal XRESET (Pin 8) is "H." If it is not, check the RESET circuit.
	The AC pulse is not input.	Check if the AC pulse is input to Pin 4 of the AC input terminal. If it is not, check the AC pulse generation circuit.
	The oscillation circuit of the microcomputer does not function.	The microcomputer or the oscillation circuit is broken. Change the microcomputer or the oscillation circuit.
The unit shuts itself off soon after it is turned on.	• If the Function is DVD, the voltage of the VDET input (Pin 17) is either 0.5 Vdd* or less or 0.85 Vdd* or more. • The voltage of the PROTECT input (Pin 22) is 0.71 Vdd* or less.	If the voltage at Pin 17 of the VDET terminal of the microcomputer is either 0.5 Vdd or less or 0.85 Vdd or more, adjust so that it stays between 0.5 and 0.85 Vdd.
• DVD does not operate at all. • Time is not displayed in FL display during DVD function.	Communication with the DVD microcomputer has not been established.	• Check that the terminal (Pins 23-25, 29, and 30) for communication with the DVD microcomputer is live, and if it is not, check if the flexible cable is disconnected. • Check if an "H" signal is output to Pin 93 of the XDVDRST terminal.
All operation keys are disabled.	The unit recognizes that an operation key has already been pressed.	If no operation key has been pressed, check if the voltage at Pins 18 of the KEY input terminal is 5 V. If it is not, check if the operation switch on the line is in failure.

* Vdd= Approx. 5V (depending on the unit)
ex.) 0.85Vdd= 0.85 × 5 (V)
= 4.25 (V)

DVD Section

No.	Symptoms	Diagnosis Contents	Possible Defective Points
1	An opening screen is not displayed on the monitor (The FL display lights. The mechanism does not work.)	Is the level at both IC5501-pin 67(XDVDRST) and pin66 (DVDON/OFF) on the CONTROL Assy "H" ?	µcom (IF/AF IC5501)
		Check the voltage of CN901-pin 28 and 29 (VPR+8) on the DVDM Assy.	DVDM Assy CN901
		Check that the following voltages are output : IC411-pin 3 : 1.8V, IC421-pin 3 : 1.8V and IC431-pin 1 : 5V on the DVDM Assy	Each regulator on the DVDM Assy
		Are resonators (27MHz, 20MHz) on the DVDM Assy oscillating ?	Crystal resonator (DVDM Assy X601 and X301)
		Refer to contents of an FE error displayed on the FL display. (SRAM defectiveness, I2C communication line defectiveness, etc.)	FRONT END IC (DVDM IC301)
		• Is a signal input into IC601-pin 132 (CE3) on the DVDM Assy ? (Is a signal fluctuating for several seconds after the power is turned on ?) → Communication with flash ROM • Are the signals input into IC602-pin 16 (SMIWE), pin 19 (SMICS0) and pin 38 (SMICLK) on the DVDM Assy ? (Is a signal fluctuating ?) → Communication with flash ROM	• BACK END IC (DVDM IC601) • Flash ROM (DVDM IC603) • 64M SDRAM (DVDM IC602)
		Is a signal output from IC603-pin 28 (CPU_OE) on the DVDM Assy? (Is a signal fluctuating for several seconds after the power is turned on ?)	• BACK END IC (DVDM IC601) • Flash ROM (DVDM IC603)
		Is a signal input into IC5501-pin 70 (DVDACK) on the CONTROL Assy? (Is a signal fluctuating ?) → Communication with µcom	µcom (IF/AF IC5501)
		Is a signal output from IC5501-pin 57 and 58 (SYS_1, 2) on the AF Assy ? (Is a signal fluctuating in the range of 0-5V ?)	µcom (IF/AF IC5501)
		Are the signals output from IC5501-pin 23, 24 and 25 on the CONTROL Assy? (in the range of 0-5V)	µcom (AF IC5501) – BACK END IC (DVDM IC601) communication line
2	An opening screen is not displayed on the monitor (The FL display lights. The mechanism does not work.)	Check the video signal path between BACK END IC (DVDM IC601) and video-out terminal (see the block diagram)	DVDM Assy • Video circuit • after BACK END IC (IC601)
3	A tray cannot be opened. (An opening screen is displayed on the monitor)	• Are wires of CN103 on the DVDM Assy disconnected or damaged ?	Connector / wire LOADING SW (LOAB S101)
		• Is a LOAD-DRVC signal reaching ? • Does the voltage of CN105 pin 1 change by pressing the Inside switch.	BACK END IC (DVDM IC601) Inside switch

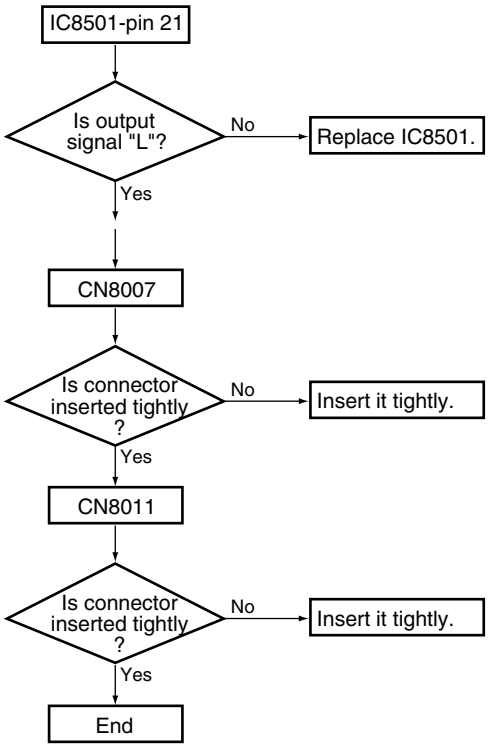
No.	Symptoms	Diagnosis Contents	Possible Defective Points
4	Playback impossible (no focusing)	Are the signals output from IC101-pin 34 (F_DRV) and pin 35 (F_RTN) on the DVDM Assy ?	FTS Driver IC (DVDM IC101)
		Does 650-nm LD emit light ? Does a pickup lens move up / down ? Does an actuator spring bend ?	Pickup
		• Are plastic parts damaged? Or is a shaft detached? • Is the turntable detached or tilted?	Mechanism section
		Is flexible cable of CN101 on the DVDM Assy disconnected or damaged ?	Flexible cable / connector
		Is signal output from IC301-pin 33 (FACT) on the DVDM Assy ? (Device control of about 2.6 V is output usually. It is fluctuated by about ± 100 mV with focus up / down.)	FRONT END IC (DVDM IC301)
5	Playback impossible (Spindle does not turn)	Are the signals output from IC101-pin 12 (A3), pin 13 (A2) and pin 14 (A1) on the DVDM Assy ? Is pin 41 fixed LOW and is pin 38 fixed HIGH ?	FTS Driver IC (DVDM IC101)
		Is there any part detached from the spindle motor? Or Is there any foreign object lodged in it?	Mechanism section (Spindle motor)
		Are wires of CN105 (DVDM Assy) disconnected or damaged ?	Flexible cable / connector
		Is signal output from IC301-pin 44 (SPDL_PDM) on the DVDM Assy ?	FRONT END IC (DVDM IC301)
6	Playback impossible (Playback stops)	Does 650-nm LD deteriorate ? If the voltage at both ends of R201 on the DVDM Assy is 0.7 V or more, the 650-nm LD is definitely deteriorated.	650-nm LD deteriorated. (When playback of a DVD is impossible)
		Does 780-nm LD deteriorate ? If the voltage at both ends of R211 on the DVDM Assy is 1.5 V or more, the 780-nm LD is definitely deteriorated.	780-nm LD deteriorated. (When playback of CD is impossible)
		Is there abnormality in FG waveform ?	FG output : FTS Driver IC (DVDM IC101)
		Are there scratches or dirt on the disc ?	Disc
7	Picture disturbance during playback (block noise, freeze, other)	Are there scratches or dirt on the disc ?	Disc
		Is there a problem with the format of the disc?	Disc
8	No sound (Picture is normal)		
		Is signal output from DOUT signal (CN901-pin 21) on the DVDM Assy ?	DVDM CN901-pin 21

7.1.5 DSP TROUBLE SHOOTING (XV-EV61 Only)

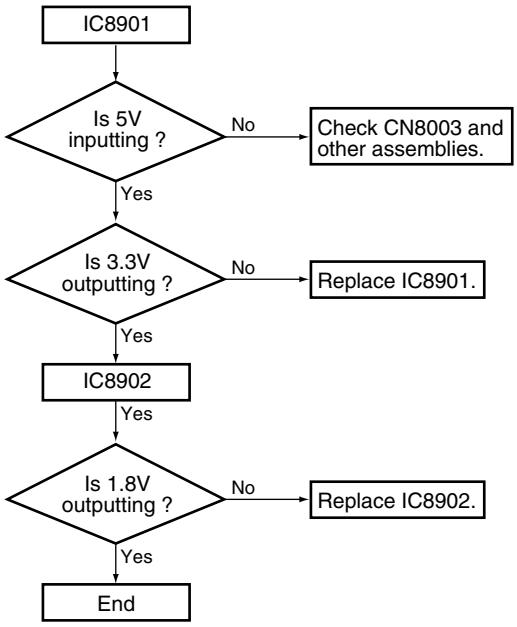
XV-EV61 Type Only

- When a sound is not out in the surround mode with the digital signal input.
- Suppose C,R parts to be poor contact and that is not damaged.
- This shows failure analysis of DSP Assy.

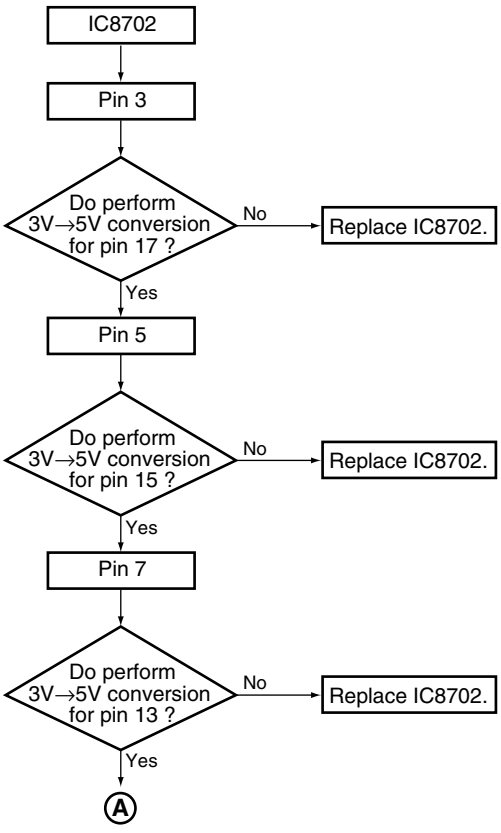
Step 1

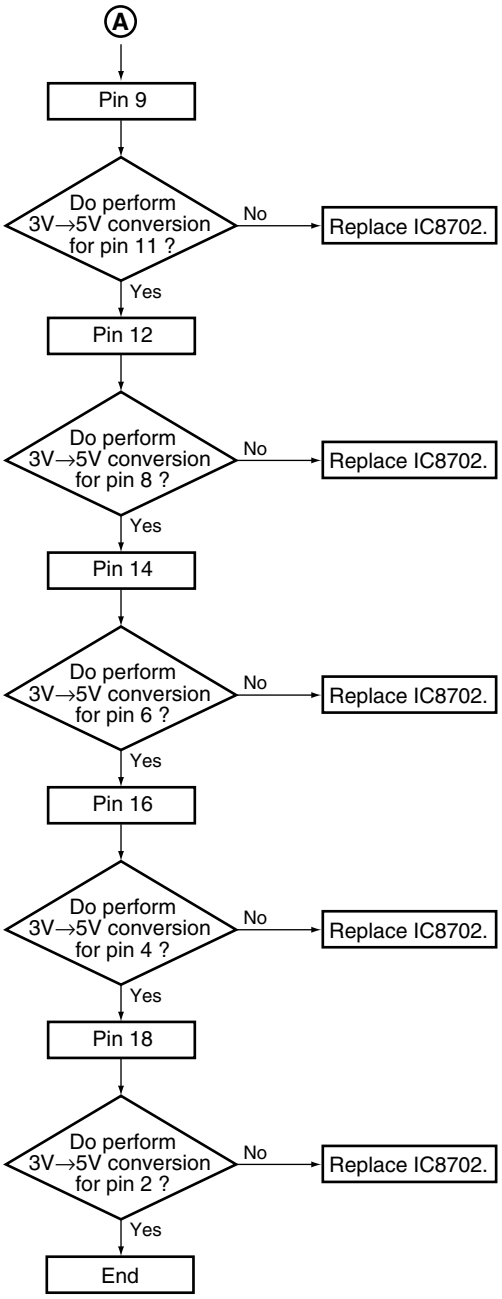


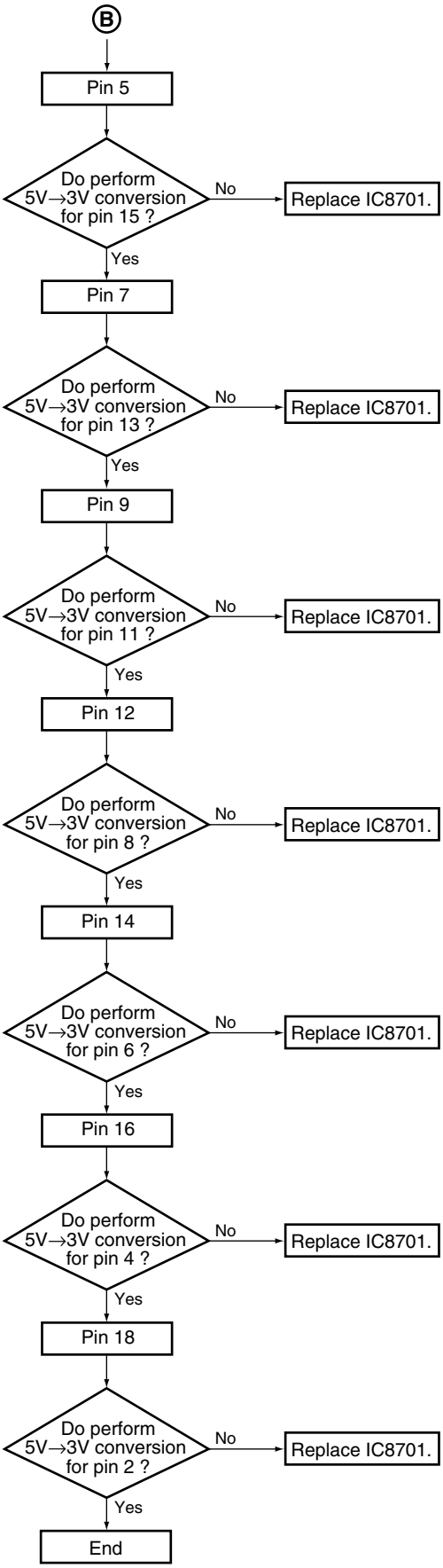
Step 2



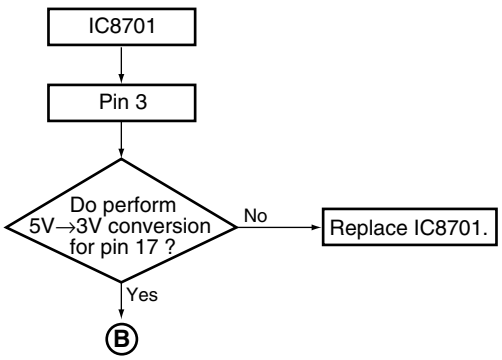
Step 3



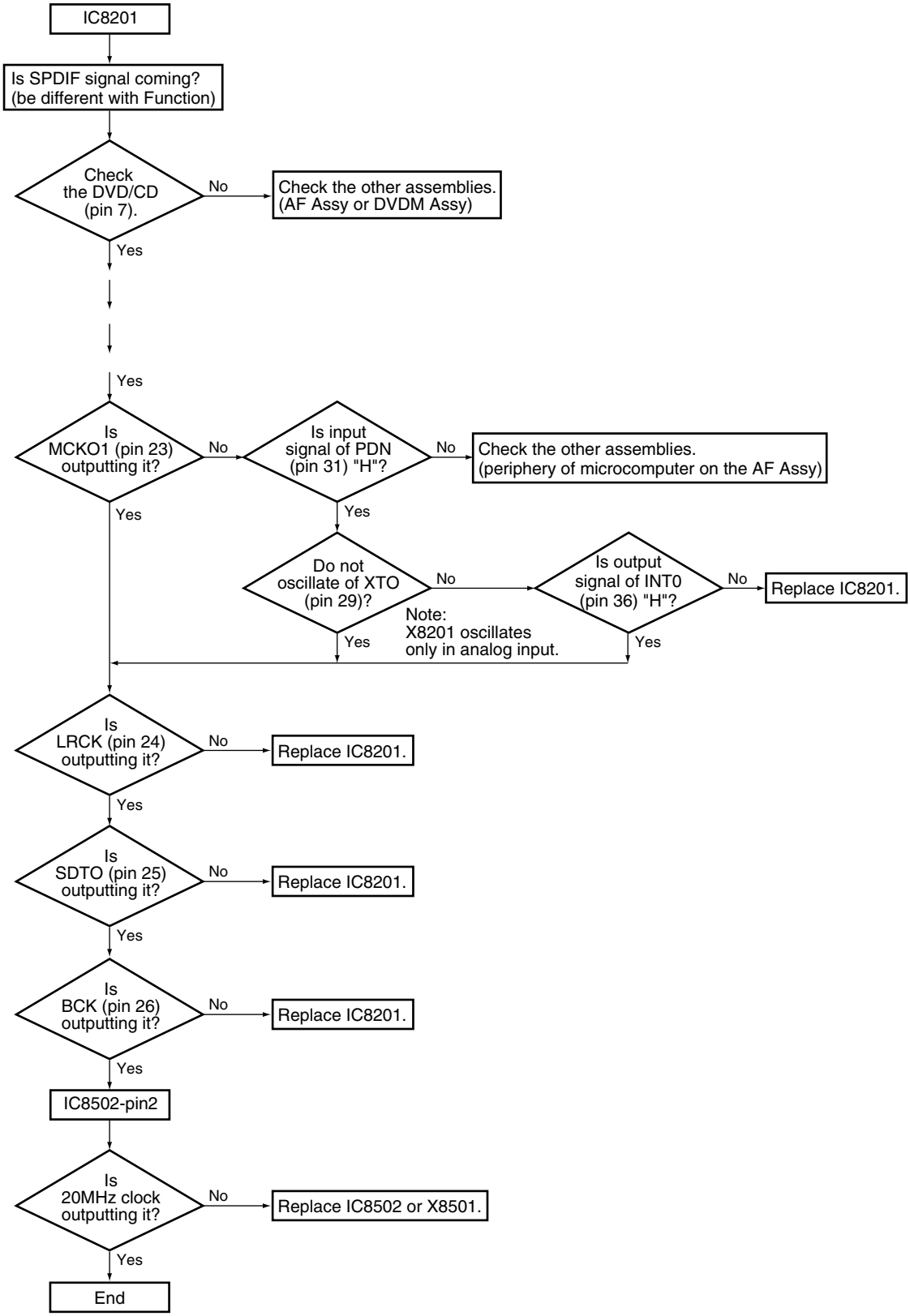

A
Pin 9
Do perform 3V→5V conversion for pin 11 ?
No
Replace IC8702.
Yes
Pin 12
Do perform 3V→5V conversion for pin 8 ?
No
Replace IC8702.
Yes
Pin 14
Do perform 3V→5V conversion for pin 6 ?
No
Replace IC8702.
Yes
Pin 16
Do perform 3V→5V conversion for pin 4 ?
No
Replace IC8702.
Yes
Pin 18
Do perform 3V→5V conversion for pin 2 ?
No
Replace IC8702.
Yes
End


B
Pin 5
Do perform 5V→3V conversion for pin 15 ?
No
Replace IC8701.
Yes
Pin 7
Do perform 5V→3V conversion for pin 13 ?
No
Replace IC8701.
Yes
Pin 9
Do perform 5V→3V conversion for pin 11 ?
No
Replace IC8701.
Yes
Pin 12
Do perform 5V→3V conversion for pin 8 ?
No
Replace IC8701.
Yes
Pin 14
Do perform 5V→3V conversion for pin 6 ?
No
Replace IC8701.
Yes
Pin 16
Do perform 5V→3V conversion for pin 4 ?
No
Replace IC8701.
Yes
Pin 18
Do perform 5V→3V conversion for pin 2 ?
No
Replace IC8701.
Yes
End

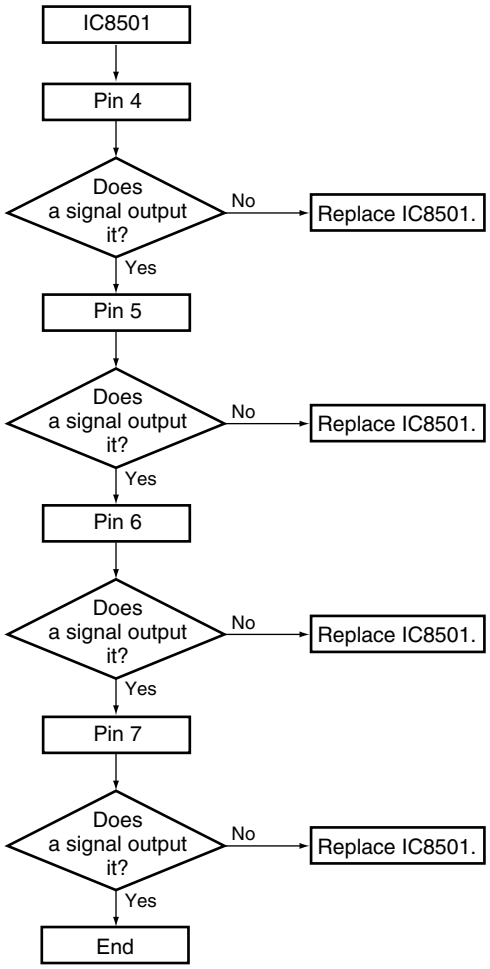
Step 4


IC8701
Pin 3
Do perform 5V→3V conversion for pin 17 ?
No
Replace IC8701.
Yes
B

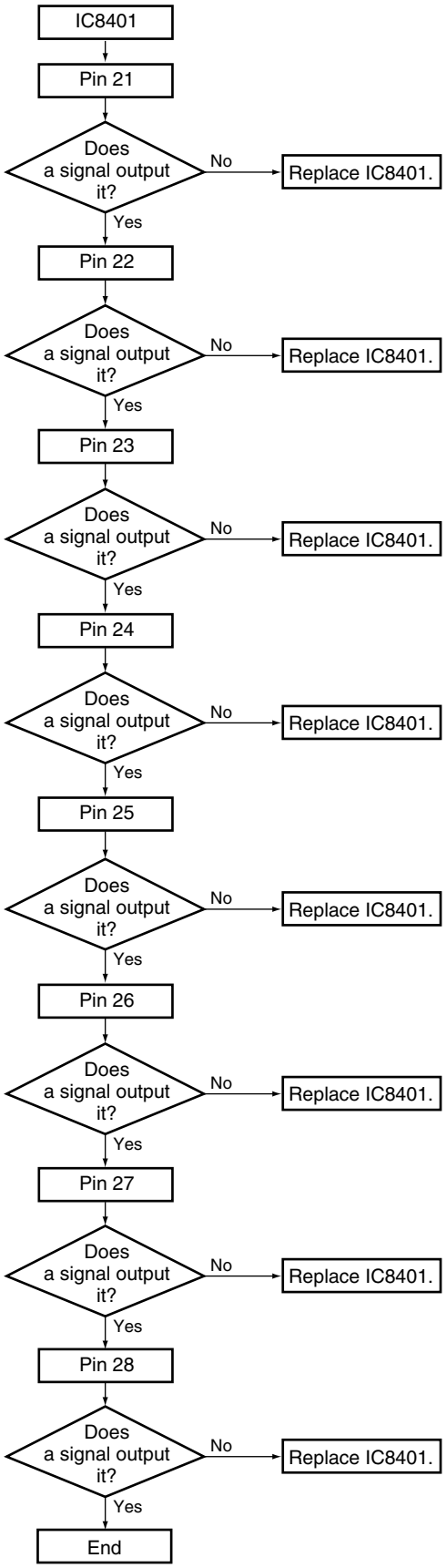
Step 5


IC8201
Is SPDIF signal coming? (be different with Function)
Check the DVD/CD (pin 7).
No
Check the other assemblies. (AF Assy or DVDM Assy)
Yes
Yes
Is MCKO1 (pin 23) outputting it?
No
Is input signal of PDN (pin 31) "H"?
No
Check the other assemblies. (periphery of microcomputer on the AF Assy)
Yes
Yes
Do not oscillate of XTO (pin 29)?
No
Is output signal of INT0 (pin 36) "H"?
No
Replace IC8201.
Note: X8201 oscillates only in analog input.
Yes
Yes
Is LRCK (pin 24) outputting it?
No
Replace IC8201.
Yes
Is SDTO (pin 25) outputting it?
No
Replace IC8201.
Yes
Is BCK (pin 26) outputting it?
No
Replace IC8201.
Yes
IC8502-pin2
Is 20MHz clock outputting it?
No
Replace IC8502 or X8501.
Yes
End

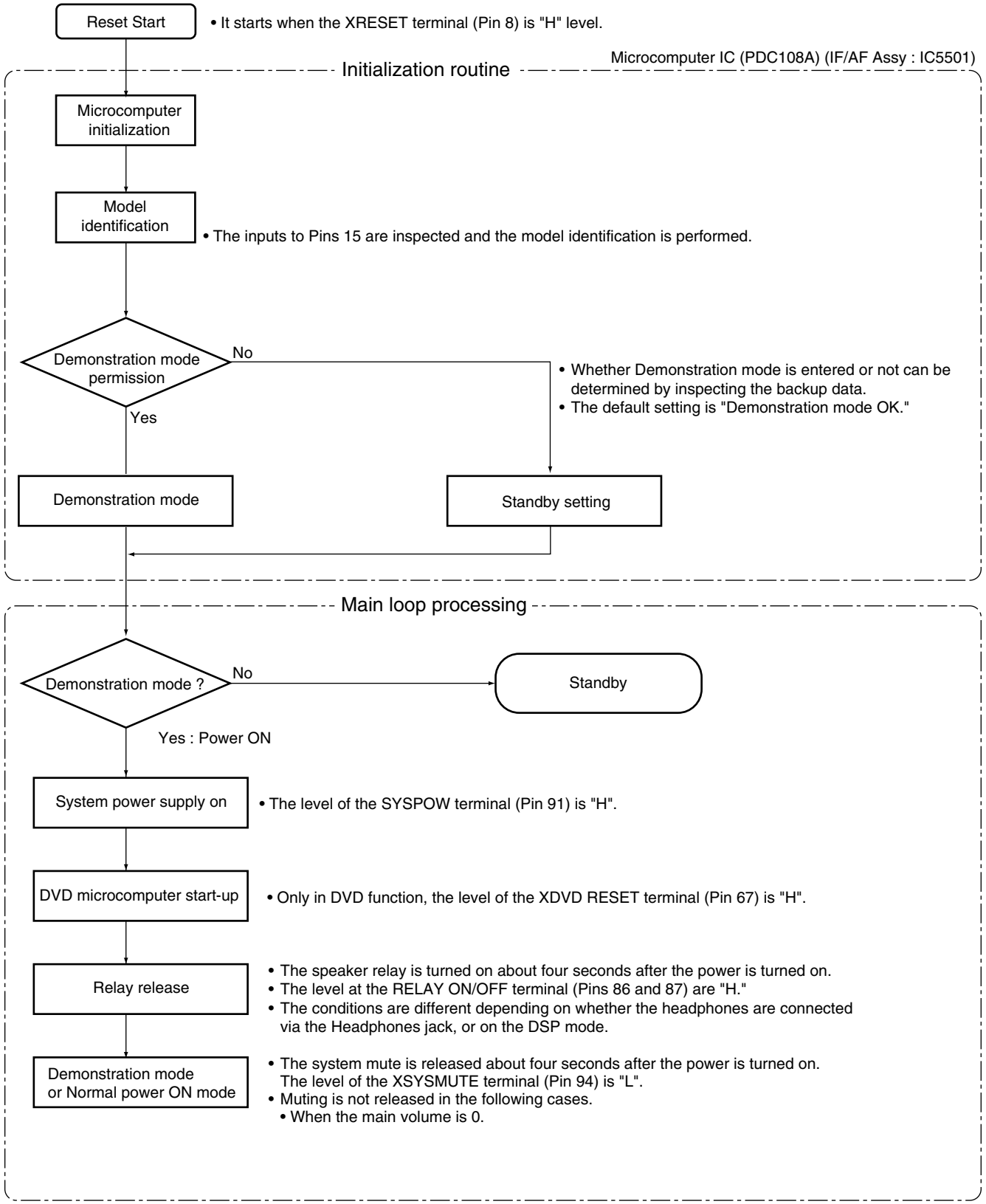
Step 6


IC8501
Pin 4
Does a signal output it?
No
Replace IC8501.
Yes
Pin 5
Does a signal output it?
No
Replace IC8501.
Yes
Pin 6
Does a signal output it?
No
Replace IC8501.
Yes
Pin 7
Does a signal output it?
No
Replace IC8501.
Yes
End

Step 7


IC8401
Pin 21
Does a signal output it?
No
Replace IC8401.
Yes
Pin 22
Does a signal output it?
No
Replace IC8401.
Yes
Pin 23
Does a signal output it?
No
Replace IC8401.
Yes
Pin 24
Does a signal output it?
No
Replace IC8401.
Yes
Pin 25
Does a signal output it?
No
Replace IC8401.
Yes
Pin 26
Does a signal output it?
No
Replace IC8401.
Yes
Pin 27
Does a signal output it?
No
Replace IC8401.
Yes
Pin 28
Does a signal output it?
No
Replace IC8401.
Yes
End

7.1.6 SEQUENCE AFTER POWER ON


Reset Start
• It starts when the XRESET terminal (Pin 8) is "H" level.
Microcomputer IC (PDC108A) (IF/AF Assy : IC5501)
Initialization routine
Microcomputer initialization
Model identification
• The inputs to Pins 15 are inspected and the model identification is performed.
Demonstration mode permission
No
Yes
• Whether Demonstration mode is entered or not can be determined by inspecting the backup data.
• The default setting is "Demonstration mode OK."
Demonstration mode
Standby setting
Main loop processing
Demonstration mode ?
No
Standby
Yes : Power ON
System power supply on
• The level of the SYSPOW terminal (Pin 91) is "H".
DVD microcomputer start-up
• Only in DVD function, the level of the XDVD RESET terminal (Pin 67) is "H".
Relay release
• The speaker relay is turned on about four seconds after the power is turned on.
• The level at the RELAY ON/OFF terminal (Pins 86 and 87) are "H."
• The conditions are different depending on whether the headphones are connected via the Headphones jack, or on the DSP mode.
Demonstration mode or Normal power ON mode
• The system mute is released about four seconds after the power is turned on. The level of the XSYSMUTE terminal (Pin 94) is "L".
• Muting is not released in the following cases.
• When the main volume is 0.

- If no pulse is input to the AC terminal (Pin 4) for about 60 msec when the microcomputer is in Memory Backup mode, it will not do any processing.
- The unit will recover from Memory Backup mode if a reset command is input to the XRESET terminal (Pin 8).

7.1.7 PROTECTION CIRCUIT

If the TIMER LED on the front panel flashes, check the protection circuit.
Note: If the protection circuit activates, the unit will not recover for 60 seconds even if the AC power cord is disconnected then reconnected.
If you activate Service Test mode, the protection circuit becomes invalid, which makes diagnosis easy. (To activate Service Test mode, while connecting SERVICE port (IC5501 pin69)to "+5V", connect AC power cord.)
There are three types of operations for the protection circuit, which are indicated on the LCD display when Service Test mode is entered:

(Short W138 and W139)

POW WNG: The unit was shut down because of an abnormality in the AMP system. (The PROTECT line operates at the MID level.)
POW ERR: The unit was shut down because of a failure in the AMP system. (The PROTECT line operates at the LO level.)
DVD ERR: The unit was shut down because of a failure in the DVD system. (The VDET line operates at the HI or LO level.)

■ Conditions for the protect circuit operations

	Voltage		Conditions	FL display in Service Test mode
PROTECT	HI level	>3.55V	Normal	
	MID level	1.8V - 3.5V	The unit is shut down because of an abnormality.	
	LO level	<1.8V	The unit is shut down because of a failure.	POW ERR
VDET	HI level	>4.25V	The unit is shut down because of a failure.	DVD ERR
	MID level	3.3V	Normal	
	LO level	<2.5V	The unit is shut down because of an abnormality.	DVD ERR

The possible failures for each error message are as follows:

POW ERR:

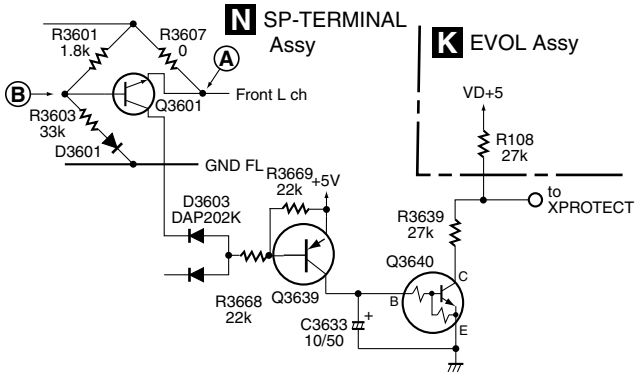
- The Speaker terminal became overloaded because of short-circuit. (See ①.)
- The main power supply became LO level because of short-circuit or disconnection of connectors. (See ②.)
- Disconnection of the FAN connector or interruption of rotation of the fan (See ③.)
- DC was generated at the output because of a failure in the AMP system, etc. (See ④.)
- Abnormal temperature was detected by the thermistor. (See ⑤.)

DVD ERR:

- An error was generated in the main power supply inside the DVDM. (See ⑥.)

■ Protection circuit that activates against a POW ERR error

① When the Speaker terminal becomes overloaded



In Normal mode, the speaker (6 ohms) is connected between the FL and GND FL points. Because the voltage at Point Ⓐ is higher than that at Point Ⓑ, Q3601 does not operate.

If the resistance between the FL and GND FL points becomes 1.83 ohms or less, Q3601 begins to operate, Q3639 is turned on, Q3640 (E, C, and B)is turned on, and the level of XPROTECT becomes MID.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.
→ After power off, unit recovers. (no reed to unit for 60 seconds)

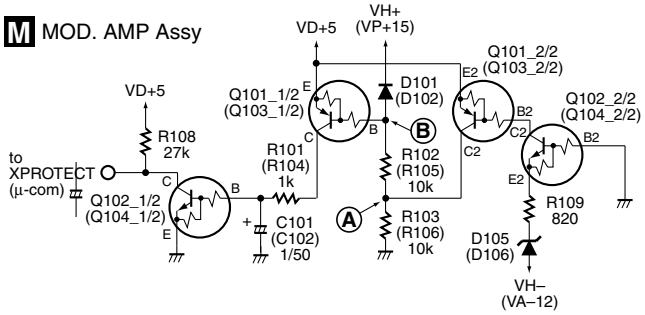
■ Protection circuit that activates against a POW ERR error

② When the main power supply becomes LO level because of short-circuit or disconnection of connectors

② -1 Short-circuit-detection circuit for the amplifier power circuit (+15 V[VP+15], VD+5, -12 V [VA-12])

Circuit for shutting the power off when VP+15, VD+5, or VA-12 is short-circuited to ground (GND)

M MOD. AMP Assy



- In Normal mode, as Q101 (Q103) (E2, B2, C2) and Q102 (Q104) (E2, B2, C2) are on, the voltage at Point Ⓐ is about 5 V. The voltage at Point Ⓑ is therefore about the same. As Q101 (Q103) (E, C, B) is off, Q102 (Q104) (E, C, B) is also off.

(1) When VH+(VP+15) is short-circuited to GND

As the voltage at Point Ⓑ becomes almost ground potential, and Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

(2) When VH-(VA-12) is short-circuited

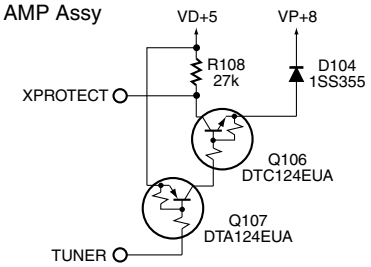
As the electric potential of VE at Q102 (Q104) (E2, C2, B2) becomes the same as that at VB, Q102 (Q104) (E2, C2, B2) is turned off. Following this, Q101 (Q103) (E2, B2, C2) is turned off, which changes the voltage at Points Ⓐ and Ⓑ to a value other than 5 V. Therefore, Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

(3) When VD+5 is short-circuited

The level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

② -2 Short-circuit-detection circuit for the DVD power supply (VP+8)

M MOD. AMP Assy

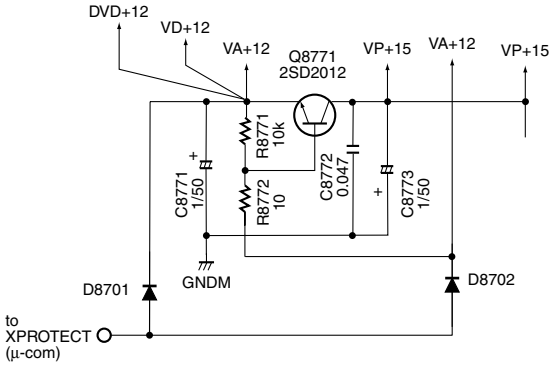


As the TUNER line is fixed to GND level, Q107 is always on. If the level at VP+8 falls to GND level because of short-circuit, etc., Q106 is turned on, and the level of the XPROTECT line becomes low.

← The microcomputer detects the XPROTECT level and shuts the power to the unit off.

② -3 Checking for VA+12 or VM+12 is short to Gnd or Not.

E IF/AF Assy

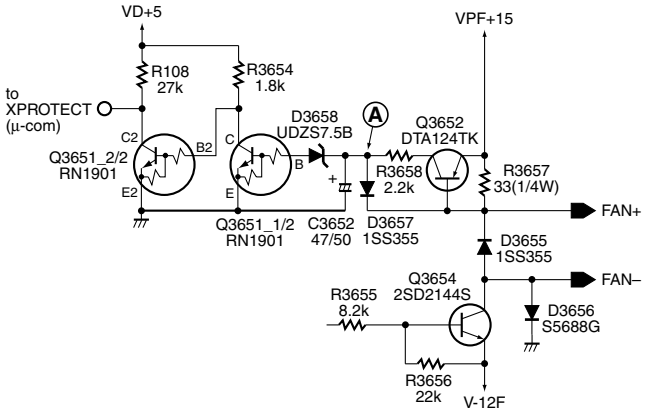


If VFDP is short-circuited to GND, or if the DC electric potential at FL AC1 becomes GND level (in Normal mode: about -27 V) because of a failure in the DC bias circuit of FL AC1, Q107 then Q115 are turned on, and the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

③ When the FAN connector is disconnected or when rotation of the fan is interrupted

M MOD. AMP Assy

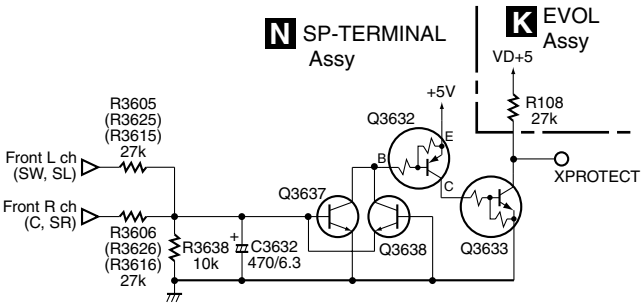


If no fan is connected between FAN+ and FAN-, or when the fan cannot rotate because of a foreign object caught in the blades, the BASE of Q3652 becomes OPEN, and Q3652 and Q3651 (E, C, B) are turned off. Then Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

When FAN+ and FAN- are short-circuited, the electric potential at Point Ⓐ becomes higher than GND level by the addition of the values at D3656 and D3657. As this value is lower than that at D3658, Q3651 (E, C, B) is turned off, Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

④ When DC is generated at the output because of a failure in the AMP system, etc.



• In Normal mode, both Q3637 and Q3638 are off.

(1) When positive (+) DC voltage is generated at the SP terminal

When positive (+) DC voltage is generated at the L or R channel, and VB of Q3637 becomes higher than that at the operation point, Q3632 (E, C, B) is turned on, and the level of XPROTECT becomes low.

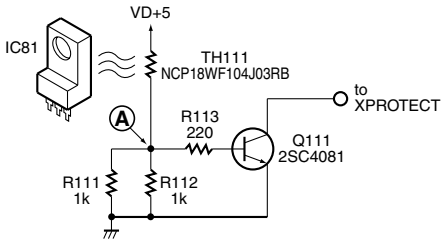
→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

(2) When negative (-) DC voltage was generated at the SP terminal

Q3638 is turned on, and XPROTECT is activated.

⑤ When abnormally high temperature is detected by the thermistor

⑤ -1 IC81 abnormal temperature detection circuit

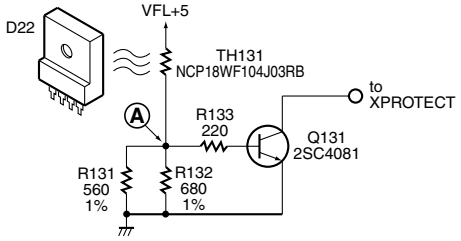


The voltage at Point Ⓐ becomes the divided voltage of TH111 and R111//R112 (combined resistance of parallel-connected resistors R111 and R112.) In Normal mode, the resistance at TH111 is much higher than R111//R112, and Q111 is off. (Note that the resistance at TH111 becomes lower as the temperature increases.) If the solder temperature at IC81 increases abnormally, the temperature at TH111 (thermistor) mounted closest to the land of IC81 increases accordingly, and the resistance at TH111 decreases.

When the temperature at TH111 reaches 90-110_C (varying according to conditions,) the voltage at Point (A) becomes high enough to turn Q111 on, and the level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

⑤ -2 D22 abnormal temperature detection circuit

If the solder temperature at D22 becomes abnormally high because of short-circuiting between AC - and +, or AC - and -, this protection circuit is activated.

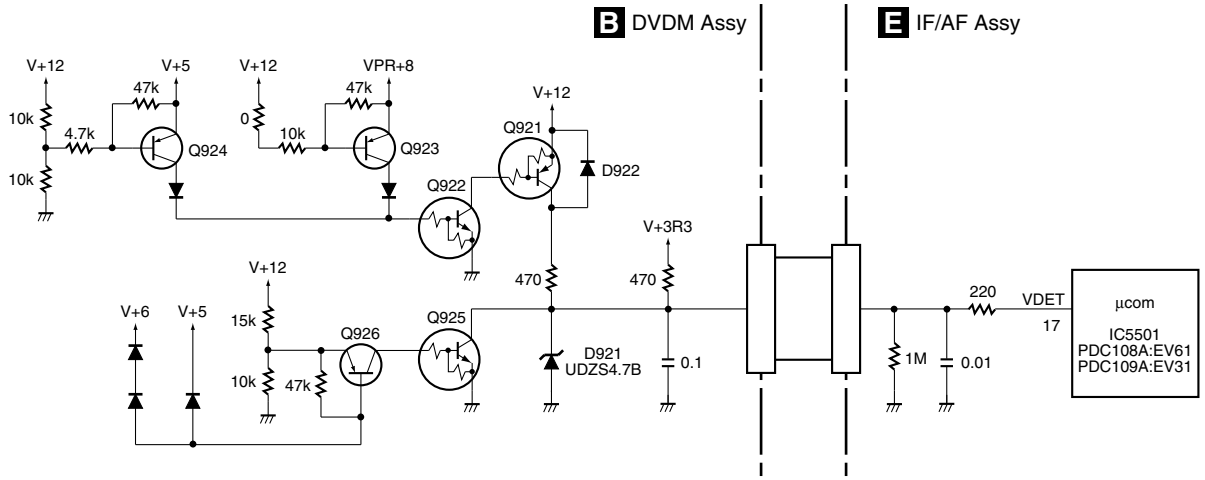


The voltage at Point Ⓐ becomes the divided voltage of TH131 and R131//R132 (combined resistance of parallel-connected resistors R131 and R132.) In Normal mode, the resistance at TH131 is much higher than R131//R132, and Q131 is off. (Note that the resistance at TH131 becomes lower as the temperature increases.) If the solder temperature at D22 increases abnormally, the temperature at TH131 (thermistor) mounted closest to the land of D22 increases accordingly, and the resistance at TH131 decreases.

When the temperature at TH131 reaches 107-125_C (varying according to conditions,) the voltage at Point (A) becomes high enough to turn Q131 on, and the level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

■ Protection circuit that activates against a DVD ERR error

⑥ The DVDM monitors the voltage of the main power supply by VDET signals.
In Normal mode, the VDET signal is at the MID level (3.3 V). In the following conditions, the VDET signal level becomes L or H, and the microcomputer is notified of this abnormality.



Items to be detected by VDET

(1) When the power voltages inside the DVDM become abnormal, as shown in the table below

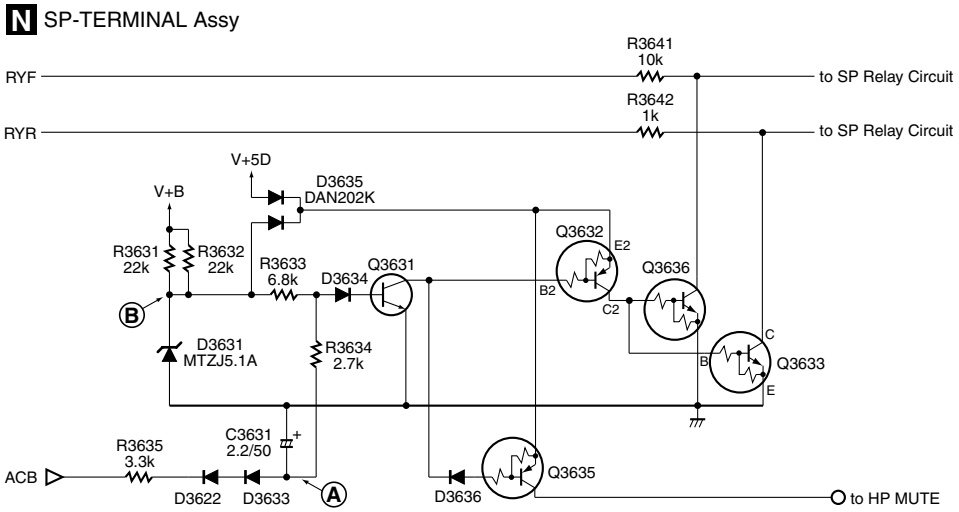
Status	Power	Voltage	Operation								VDET voltage
			Q923	Q924	Q922	Q921	D921	D922	Q926	Q925	
In Normal mode			off	off	off	off	off	off	off	off	Mid
When an abnormality is generated.	VDVD+12	<1V	(on)	(on)	(on)	(off)	off	on	off	off	L
		>15.5V	off	off	off	off	off	off	on	on	L
	VPR+8	<5.2V	–	off	off	off	off	–	on	on	L
		>12.6V	–	on	on	on	on	–	off	off	H
	V+6	<3V	–	–	–	–	–	–	on	on	L
	V+5	<3.6V	–	off	off	off	off	–	on	on	L
		>6.6V	–	on	on	on	on	–	off	off	H
	V+3R3	<2.5V	–	–	–	–	–	–	–	–	L
		>4.25V	–	–	–	–	(on)	–	–	–	H

(2) When the VDET signal to the microcomputer is interrupted because of defective soldering of the 30-pin connector or incomplete insertion of FFC
→ The VDET level is lowered by the pull-down resistor (1 Mohms) on the side of the microcomputer.

■ Other protection circuit

AC detection circuit

This is a protection circuit that prevents popping sounds in the Speaker and Headphones output when the AC power cord is connected or disconnected.



- The voltage at Point Ⓐ is a DC voltage which has been generated by half-wave rectification on the minus side of the AC power.
- The voltage at Point Ⓑ is approx. 5 V.

- The base voltage at Q3631 is a voltage between Points Ⓐ and Ⓑ divided by R3633 and R3634. As this voltage is negative (-) in Normal mode, Q3631 is off.
  When the AC power cord is disconnected and there is no AC power input, the base voltage at Q3631 becomes +0.6 V or more, and Q3631 is turned on. Then, the operations below follow.

(1) SP Relay

Q3632 (E2, C2, B2), Q3633, and Q3636 (E, C, B) are turned on, the line to activate the SP relay becomes low level, and the SP Relay is turned off.

(2) HP MUTE

Q3635 is turned on, and the MUTE circuit for HP is turned on.

■ Protection Specifications and Service Mode

• Protection Specifications

The system microcomputer (CONTRL Assy IC5501) for this unit always monitors if abnormality of the power is generated, and as soon as an abnormality is detected shuts off the power. The specifications of the microcomputer terminal for monitoring are as follows:

Name of microcomputer terminal		XPROTECT (Pin 22)	VDET (Pin 17)
Monitoring item		Abnormality of AMP-system power Short-circuiting of the SP terminal, etc.	Abnormality of power inside the DVDM Assy
Voltage at terminal	In normal conditions	0.71× Vdd* or more	0.5 xVdd-0.85 xVdd*
	In abnormal conditions	0.36×Vdd–0.71× Vdd*	
	In failure	0.36×Vdd* or less	0.85 Vdd* or more 0.5 xVdd* or less
Monitoring start time		1.5 sec after power is turned on	1.5 sec after power is turned on
Time required for determining abnormality		0.5 sec after detection	0.5 sec after detection

*Vdd = Approx. 5 V (depending on the unit)

In abnormal conditions or in failure, the TIMER LED flashes after the power is shut off. If the power was shut off because of an abnormality, it can be turned on by pressing the STANDBY/ON key. However, if the power was shut off because of failure, **for one minute after a shutdown the STANDBY/ON key is disabled in order to protect against possible ignition of fumes.** If the AC power cord is pulled out during this one minute of standby, when the AC power cord is reconnected, the STANDBY/ON key will still be disabled until the remaining seconds have elapsed.

This unit has Service Test mode for analyzing the above power abnormality. Its specifications are as follows:

1. Specific conditions for Service Test mode

- VDET is neglected.
- XPROTECT is neglected.
- **Even if the unit is urgently shut down in failure in Normal mode, you can turn it on without waiting for one minute.**

2. How to enter Service Test mode

- While connecting STEST port (IC5501 Pin69) to "+5V", connect AC power cord. (See next page.)

3. How to quit Service Test mode, and the conditions for quitting

- To quit Service Test mode, turn the power off or disconnect the AC power cord.
- When quitting Service Test mode, only data on protection in RAM are cleared.

4. Indications when Service Test mode starts

- Indications on the LCD display when Service Test mode starts differ depending on whether the unit was turned off normally or if the unit was urgently shut down because the abnormality of the power, as described below.

[After the power is shut down because of an failure/abnormality in the AMP system]

FL display PRTCT WNG
⇩
FL display Volume 0
⇩
FL display POW ERR

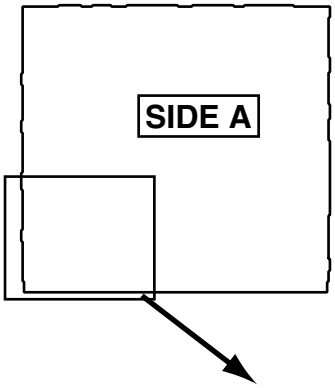
[After the power is shut down because of a failure in the DVD system]

FL display DVD PRTECT
⇩
FL display Volume 0
⇩
FL display DVD ERR

5. Operations during Service Test mode

- Basically, operations in Service Test mode are the same as in Normal mode.

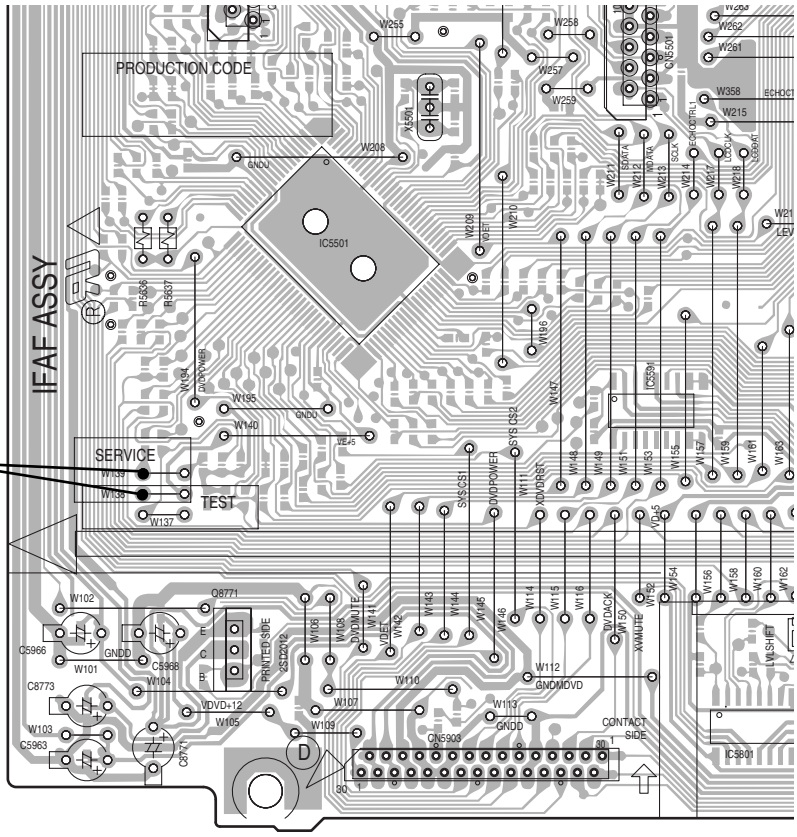
■ Service Test mode connecting point



E IF/AF ASSY

SIDE A

Connecting point

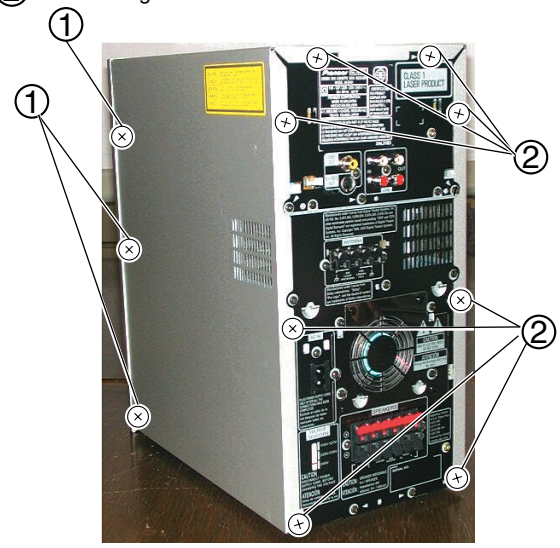


7.1.8 DISASSEMBLY

1 Remove of Bonnet Section

① Remove the Bonnet L and R (up VPZ30P080FNI x2)
Remove the Bonnet L and R (below BBZ30P080FNI x4)

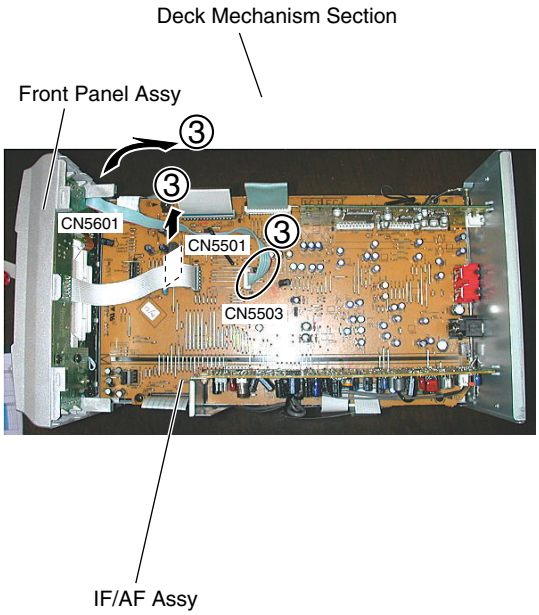
② Remove eight screws



● Rear View

2 Front Panel and Deck Section

③ Remove the Front Panel Section
(FFC × 2, connectors × 1)



Note : Operation check of the main unit is possible even if removes the Deck Mechanism Section.

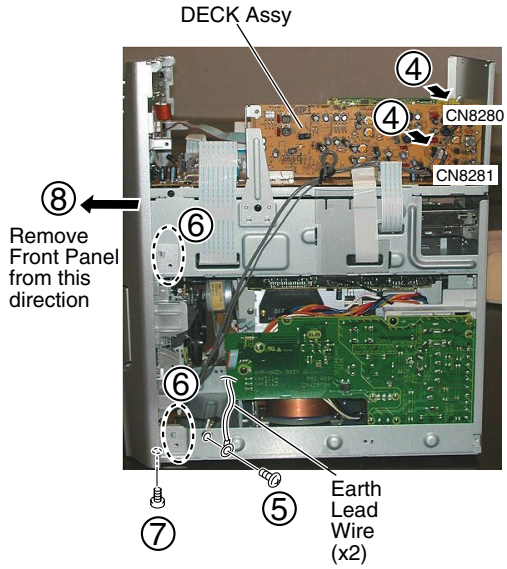
2 Front Panel and Deck Section

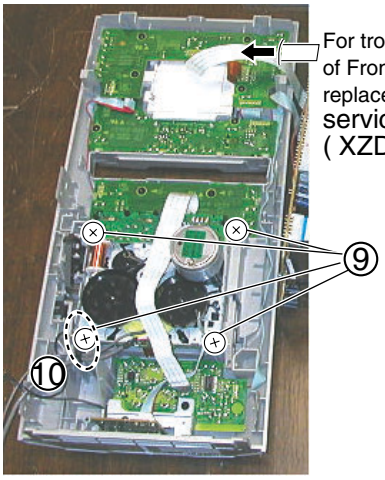
④ Remove two cable from deck PCB

⑤ Remove the screw

⑥ Remove X4 screw from bottom of Front Panel

⑦ Remove × 4 catches





⑨ Remove x4 screw

⑩ Cut the cable binder

Note : Front Panel can removes with the state which Tray Panel was attached to it.
In this time, remove bottom part of the Front Panel first so that the Tray Panel is not caught.

3 AF/IF PCB Section

① Remove three screws

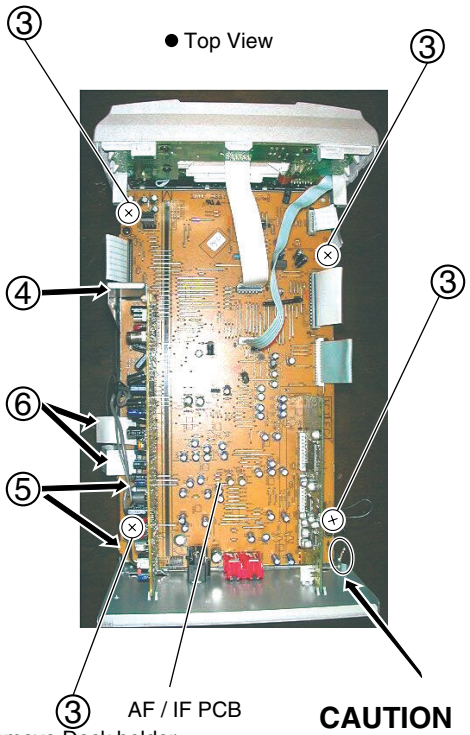
● Rear View

② **CAUTION**

Do not remove any screw from the output terminator connect-this will cause no grounding.

③ Remove four screws

● Top View



④ Remove Deck holder

⑤ Disconnect x2 cables

⑥ Disconnect x2 FFC

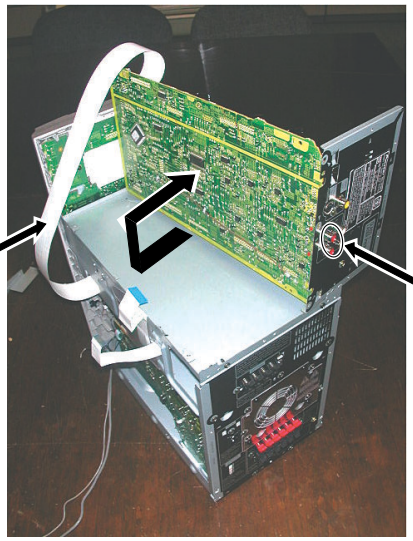
CAUTION

Do not remove the ground wire between the two rear panel.

Note :
If the Power is turned On when the DSP Holder (DSP GND) is not connected to the rear panel (chassis), the parts below may be destroyed at the DSP ASSY.

IC8702 : TC74VHCT244AFT
IC8401 : AK4529VQ
R8415 : 4.7Ω

If the above parts are destroyed, the audio signal can not be out.



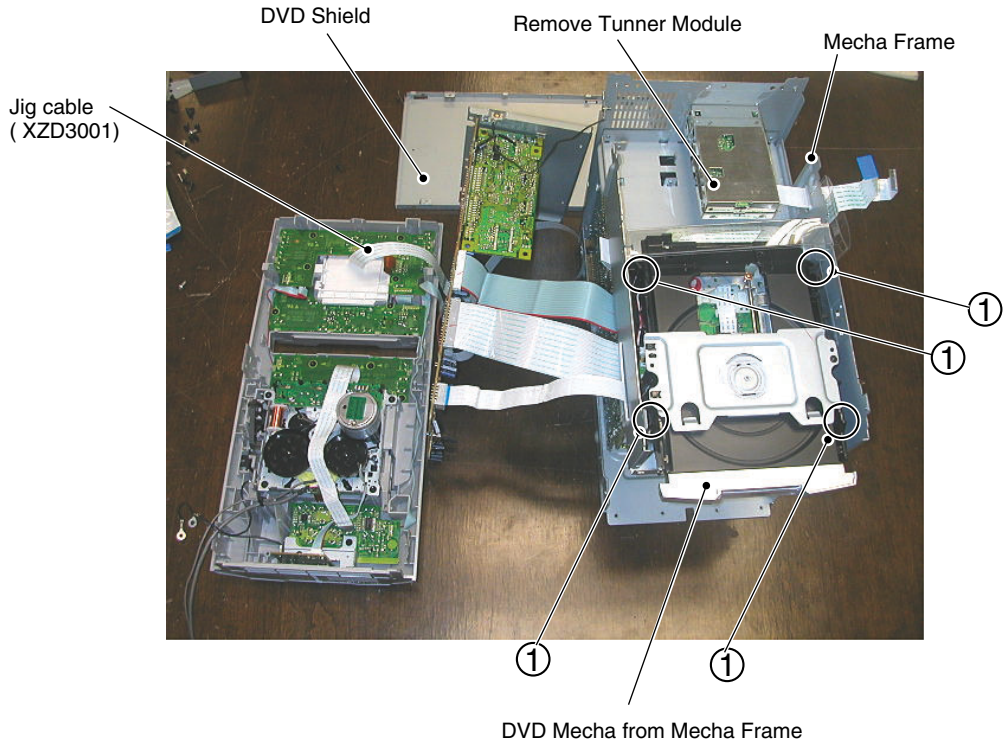
For 6CH Only
Troubleshooting AF/IF, Replacc with Jig cable (GGD1222)

For 3CH Only
For troubieshooting of AF/IF, disconnect all FFC and connect to Line Input

Turn the PCB with Rear Panel to as shown above

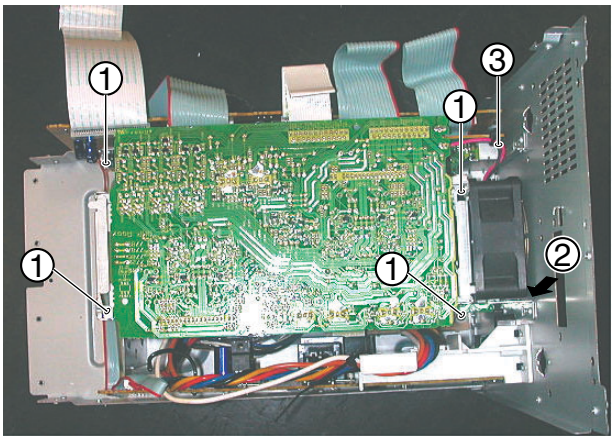
4 Remove of DVD Mecha Section

① Remove x4 screws.



5 Remove of Power Module Section

① Remove (screws ×4).
② Remove the Module Holder R .
③ Cut the cable binder



Removing the Traverse Mecha. Assy-S and Pickup Assy

1 Loading Mecha. Assy

① Remove the bridge by removing the one screw

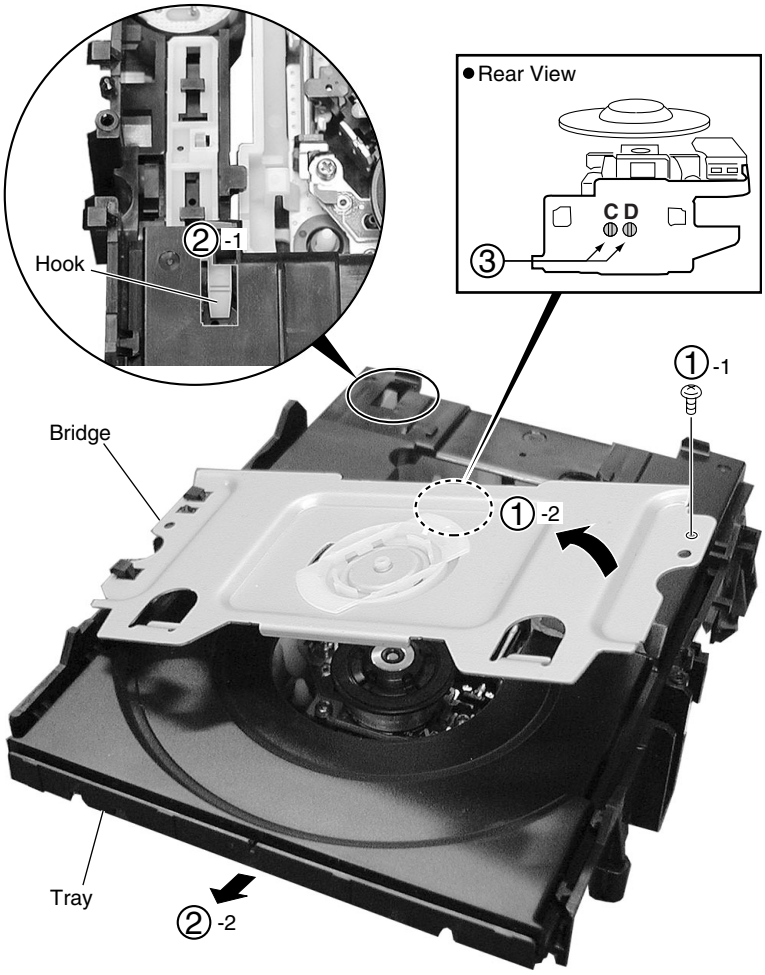
② Pull out the tray, then remove it by pressing the hook

③ Short-circuit two points of C and D by soldering

Note: After replacement, connect the flexible cable, then remove the soldered joint (open).

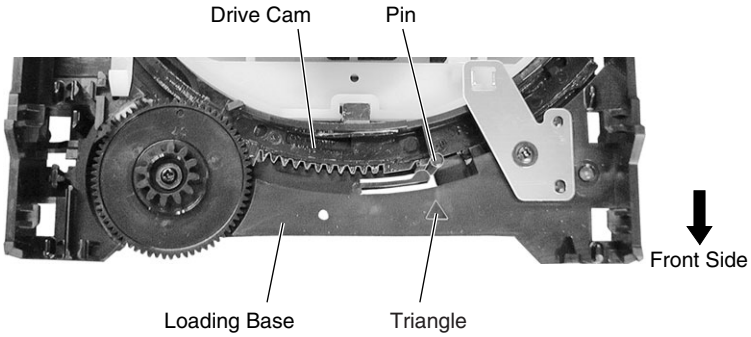
④ Remove the four connectors from the Loading Mecha. Assy

⑤ Remove the four screws that secure the Loading Mecha. Assy to the unit



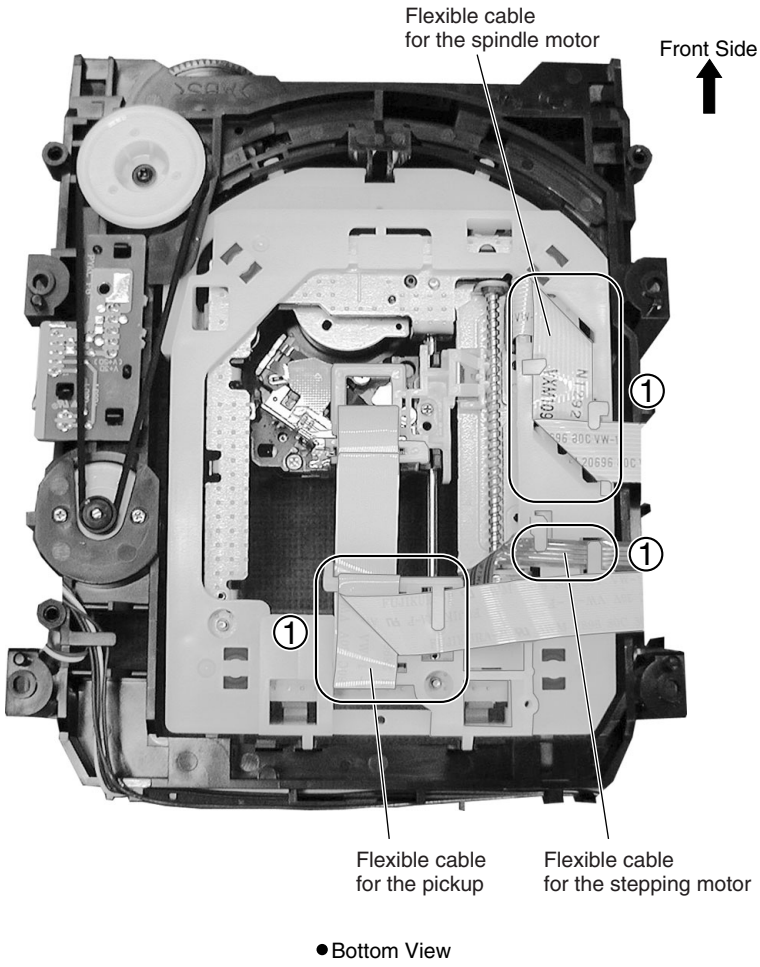
Note when reinserting the Tray

When reinserting the Tray, first align the triangle printed on the Loading Base and the pin of the Drive Cam, then insert the Tray.



2 Traverse Mecha. Assy-S

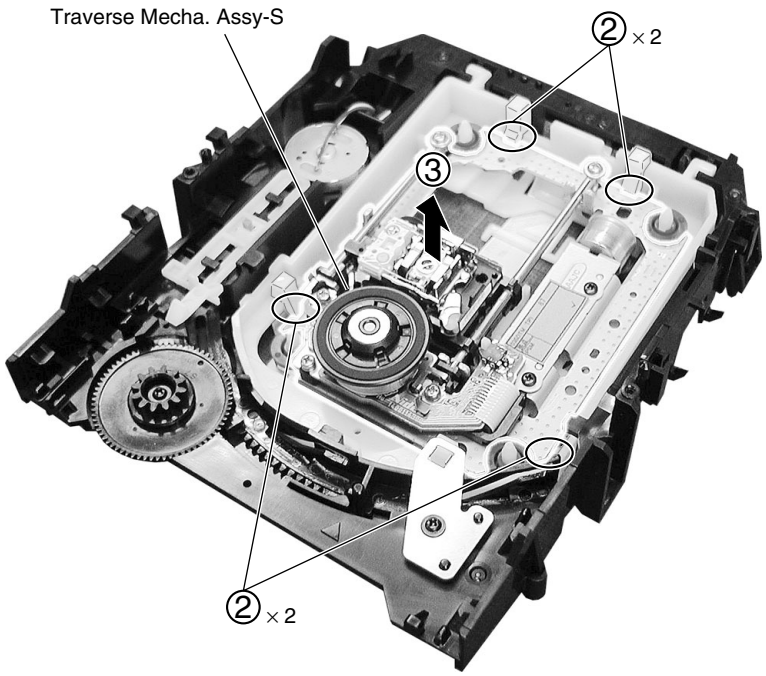
① Dislodge the flexible cables from their packaged placement



● Bottom View

② Remove the four hooks

③ Remove the Traverse Mecha. Assy-S

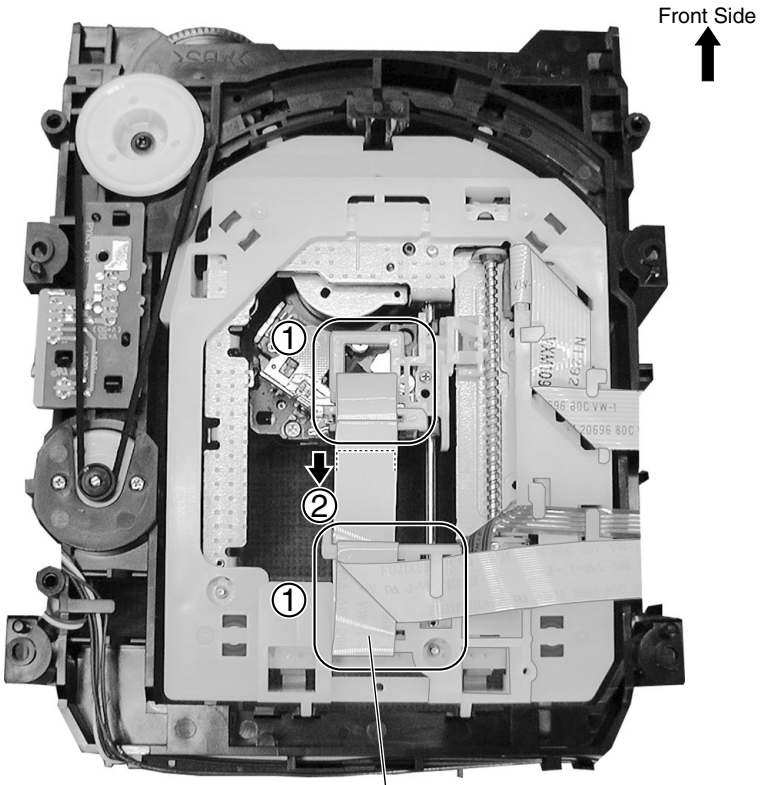


3 Pickup Assy

Note: The Pickup Assy can be removed without removing the Traverse Mecha. Assy-S. (shown as Step 2.)

① Dislodge the flexible cable for the pickup from its packaged placement

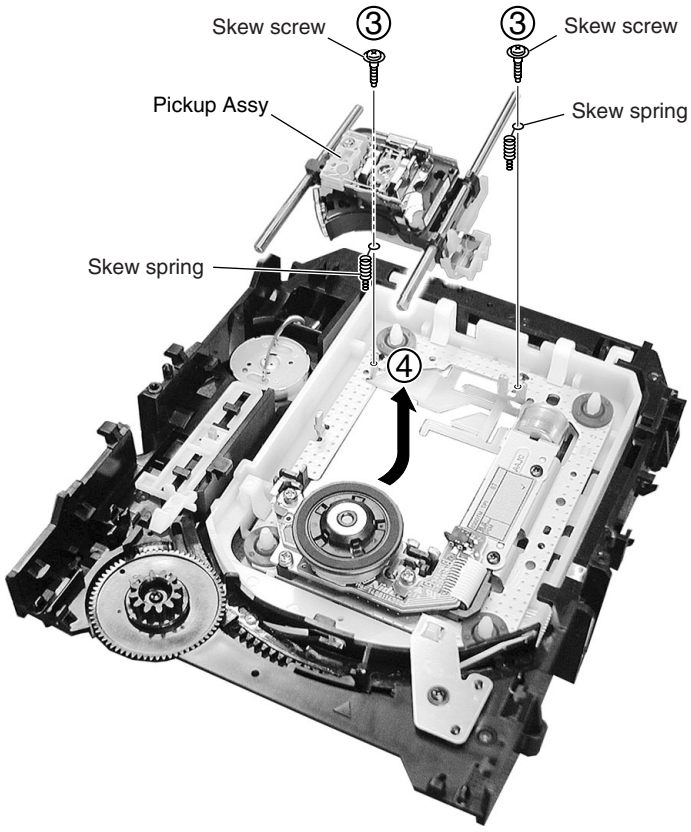
② Remove the flexible cable for the pickup



● Bottom View

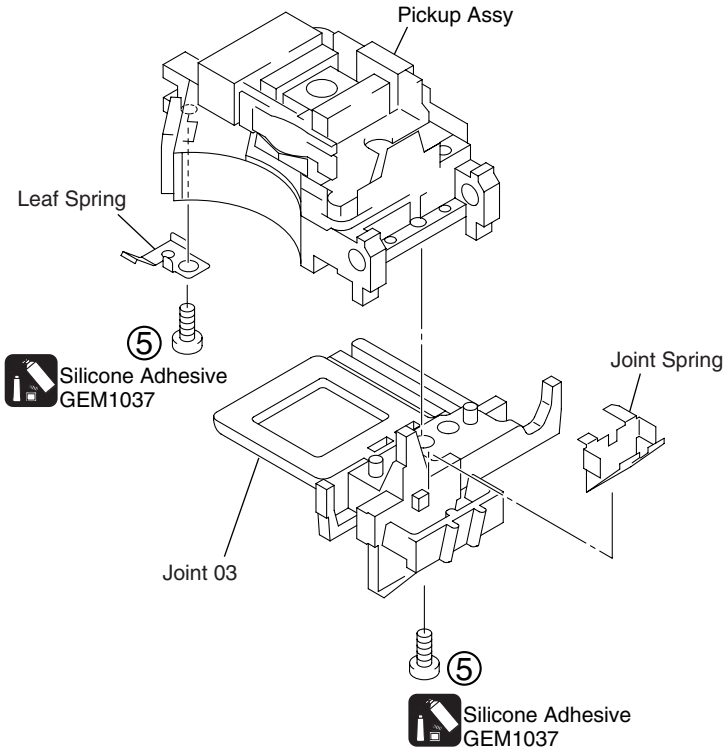
③ Remove the two skew screws and two skew springs

④ Remove the Pickup Assy



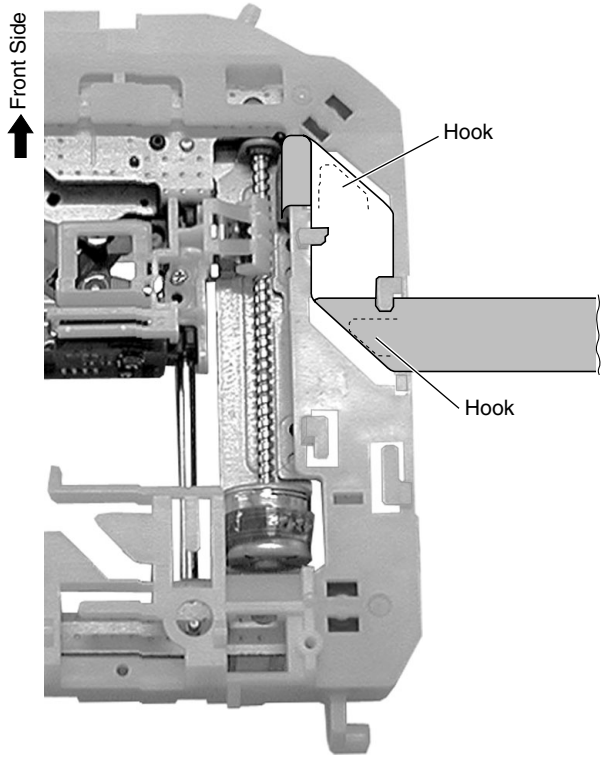
⑤ Remove the two screws

Note: The screws are secured with epoxy. Make sure to apply epoxy after reattaching the screws.



Arrangement of the flexible cable for the spindle motor

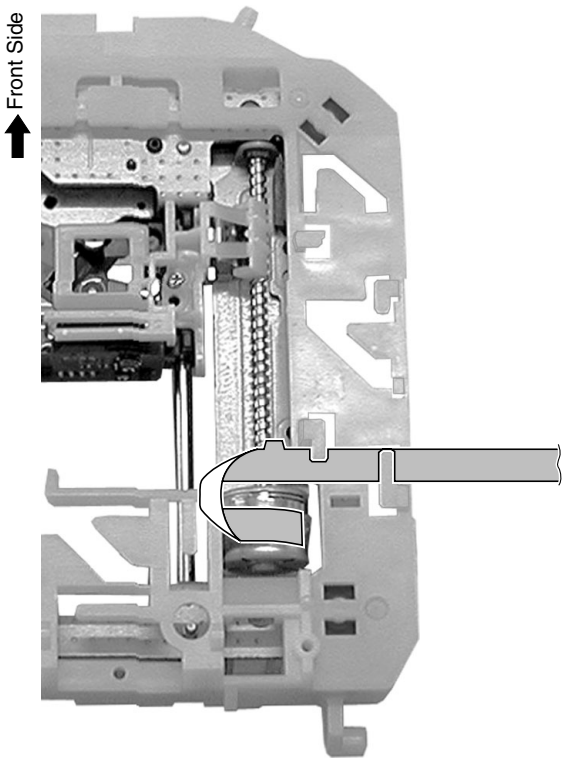
: Conductive surface



● Bottom View

Arrangement of the flexible cable for the stepping motor

: Conductive surface



● Bottom View

Arrangement of the flexible cable for the pickup

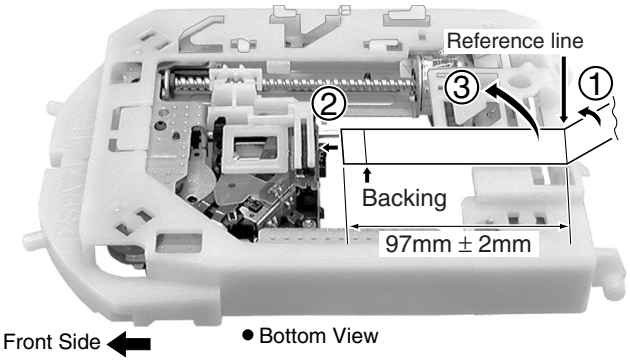
: Conductive surface

Note:
Be sure to move the Pickup Assy to the innermost perimeter.

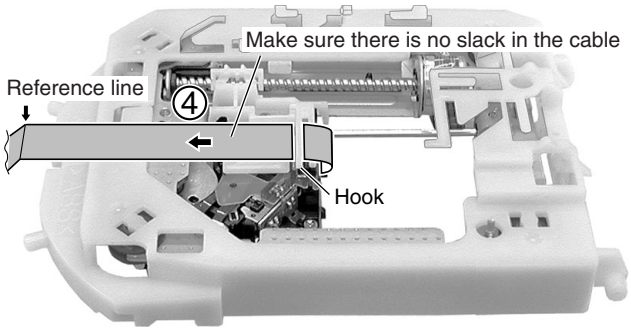
① Fold the flexible cable inward at the position of the reference line

② Attach the flexible cable of the pickup to the connector

③ Fold the flexible cable of the pickup with the backing inward

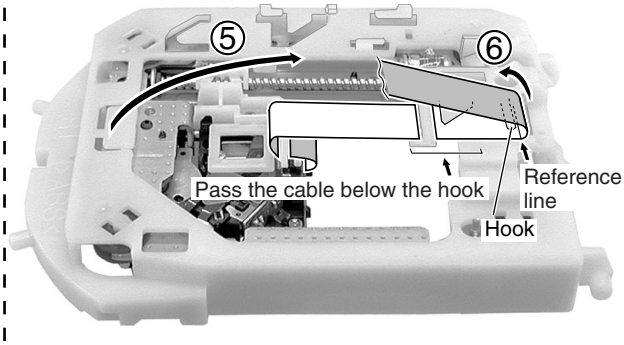


④ Pass the flexible cable through the hook not allowing any slack



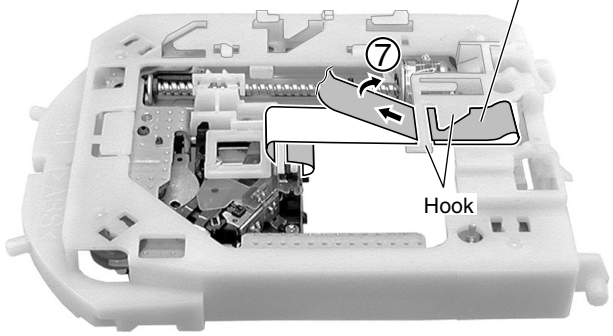
⑤ Fold the flexible cable as indicated in the photo

⑥ Hook the part folded in Step ① to the hook



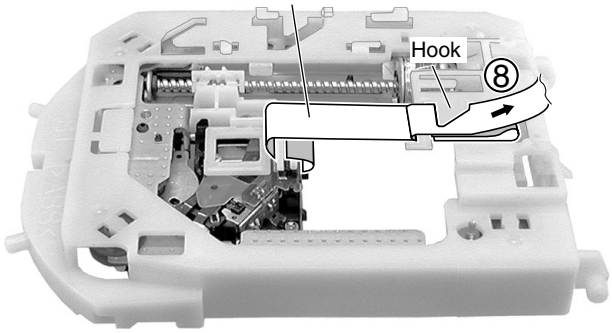
⑦ Pass the flexible cable below the hook, and fold it back

Make sure that the cable does not have any slack

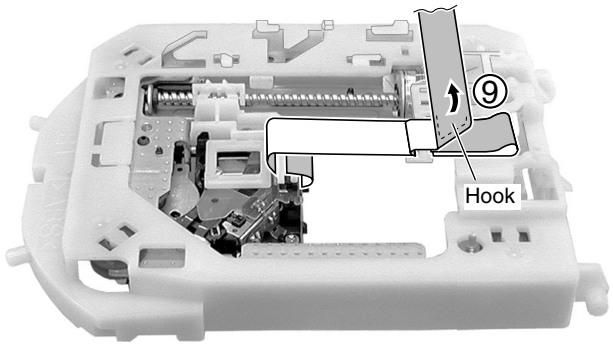


⑧ Fold the flexible cable back at the hook

Make sure that the cable is loose



⑨ Fold the flexible cable along the hook



7.2 PARTS

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

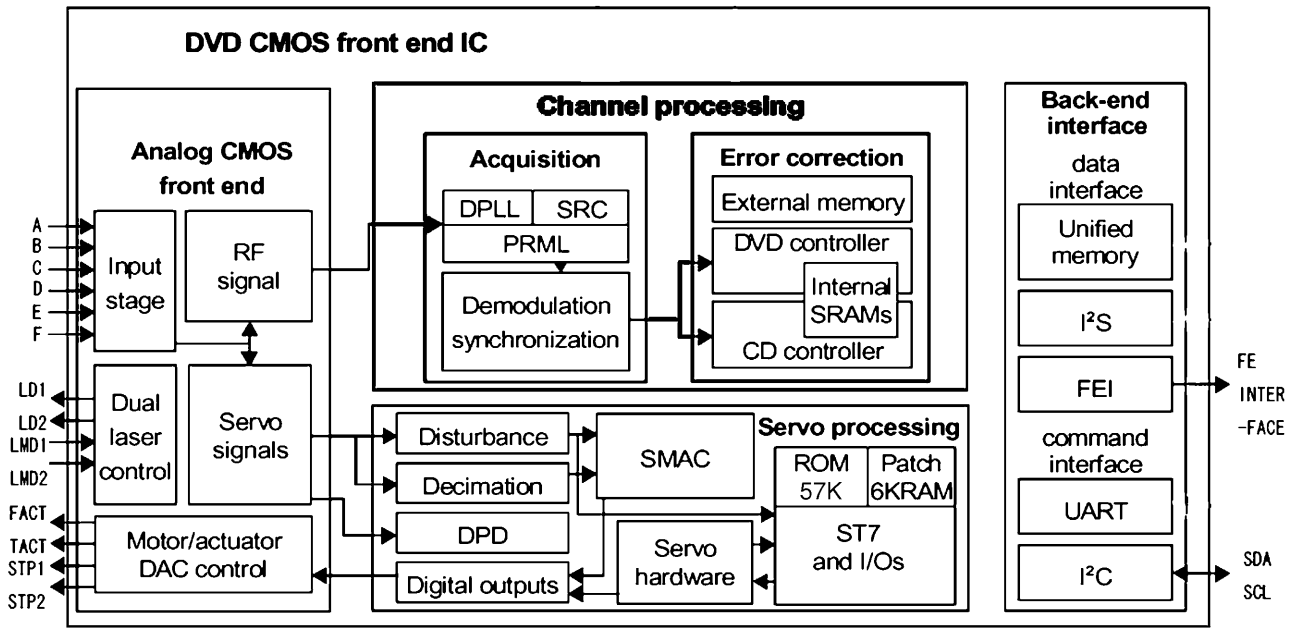
• List of IC

STM6316ATXXA, STM5589C, PDC108A

■ STM6316ATXXA (DVDM ASSY : IC301)

• FRONT END IC

● Block Diagram



● Pin Function

No.	PIN name	description	detail
1	IREF	12.7kF	Analog block reference part
2	GNDAI	GNDA	analog gnd
3	RFIN	capacitor	RF signal C association input to a demodulation block
4	RFOUT	capacitor	B1+B2+B3+B4 mixture listing from an analog block
5	VCCA18	1V8A	analog 1V8
6	A	B1	PU - B1 input
7	GNDMN	GNDA	analog gnd
8	B	B2	PU - B2 input
9	VCC33MN	3V3A	analog 3V3
10	REFD	to pick up	2V1 output for PU
11	VCC18MN	1V8A	analog 1V8
12	D	B4	PU - B4 input
13	VCCA18IS	1V8A	analog 1V8
14	C	B3	PU - B3 input
15	VCCA33IS	3V3A	analog 3V3
16	GNDAIS	GNDA	analog gnd
17	VCC33SD	3V3A	analog 3V3
18	VCC18SD	1V8A	analog 1V8
19	GNDSD	GNDA	analog gnd
20	F	C	PU-3 beam C input
21	E	A	PU-3 beam A input
22	VSHIELDIS	GNDA	analog gnd
23	VCC18ADC	1V8A	analog 1V8
24	GNDADC	GNDA	analog gnd
25	VSHIELDADC	GNDA	analog gnd
26	VCC33DAC	3V3A	analog 3V3
27	GNDDAC	GNDA	analog gnd
28	SPINDLE	560ohm(st2)	DAC current listing for stepper drive
29	SLEDGE	560ohm(st1)	DAC current listing for stepper drive
30	REFEXT	20K1%	Reference for DAC
31	REFGND	refext	analog gnd
32	REFDAC	560ohm1%	DAC reference
33	FACT	560ohm1%	DAC current listing for focus
34	TACT	560ohm1%	DAC current listing for tracking
35	VCC18DAC	1V8A	analog 1V8
36	PC0	FG	FG pulse input
37	PC1	PS	Driver control signal
38	PC2	tray SW1(open)	SW input for tray OPEN position
39	PC3	SB	Driver control signal
40	PC4	SLD position	Inside SW input

No.	PIN name	description	detail
41	VSS	GNDD	digital gnd
42	VDD33	3V3D	digital 3V3
43	PC5	780/X650	780nm/650nmLD change control signal
44	PC6	spinde PDM	Control PDM listing for spindle drive
45	PC7	opicgain	OEIC gain control signal
46	PD7	03PU/X02PU	Pull-up settlement
47	VSS	GNDD	digital gnd
48	VDD18	1V8D	digital 1V8
49	PD6	(debug)	test
50	PD5	(debug)	test
51	PD4	(DSPclk)	test
52	PD3	(DSPdata)	test
53	PD2	(DSPstrb1)	test
54	PD1	error monitor	Terminal for TRKG error monitor (30KHzLPF add need)
55	PD0	tray PDM drive	Control PDM signal for tray drive
56	VSS	GNDD	digital gnd
57	VDD33	3V3D	digital 3V3
58	OUT_ERR	RS_ERROR	BE DATA I/F
59	OUT_EVALID	RS_ERR_EN	BE DATA I/F
60	VSS	GNDD	digital gnd
61	OUT_CLK	RS_BCLK	BE DATA I/F
62	VDD18	1V8D	digital 1V8
63	OUT_DVALID	RS_DVALID	BE DATA I/F
64	OUT_DATA	RS_DATA	BE DATA I/F
65	OUT_SYNC	RS_ECCBST	BE DATA I/F
66	PE5	SCL(DMA)	FE routine download input
67	PE4	SDA(DMA)	FE routine download input
68	PE3	SCL	BE command I/F
69	PE2	SDA	BE command I/F
70	PE1	tray SW2(close)	SW input for tray CLOSE position
71	PE0	DXXINT	FE status propagation signal
72	VSS	GNDD	digital gnd
73	VDD33	3V3D	digital 3V3
74	PF1	10K-pullup	Built-in facility setting terminal
75	PF0	10K-pulldown	Built-in facility setting terminal
76	VSS	GNDD	digital gnd
77	VDD18	1V8D	digital 1V8
78	PG1	to EMULATOR	Built-in facility setting terminal
79	PG0	to EMULATOR	Built-in facility setting terminal
80	TEST	10K-pulldown	test

No.	PIN name	description	detail
81	RESET_N	RESET	RESET input
82	VSSADC	GNDA	analog gnd
83	VDD18ADC	1V8A	analog 1V8
84	GNDPLL	GNDA	analog gnd
85	PLLOFF	GNDA	analog gnd
86	FREOUT	20MXtal	SYSTEMCLK oscillating circuit
87	FREIN	20MXtal	SYSTEMCLK oscillating circuit
88	VCC18PLL	1V8A	analog 1V8
89	LD1	650nmLD	650nmLD driving signal
90	LD2	780nmLD	780nmLD driving signal
91	VCCA33	3V3A	digital 3V3
92	TWSEL	CD_VR/GND	Monitor diodes VR junction terminal for CD
93	LMD1	LMD/LMD1	Monitor voltage junction terminal
94	LMD2	DVD_VR/LMD2	Monitor diodes VR junction terminal for DVD
95	GNDL	GNDA	analog gnd
96	TST_PM	nc	tset
97	TST_SLICE	nc	test
98	TST_ADC	nc	test
99	RFSACD	SACD_IC	RF signal output
100	VBGFILT	capacitor	Condenser junction terminal for inside reference stability

■ STM5589CVA (DVDM ASSY : IC601)

• BACK END IC

● Pin Function

No.	Pin Name	Dir.	Pin Function
1	FP_SO	OUT	Front Panel / DAC interface. Serial transfer data output.
2	A_DATA3	OUT	reserved
3	VCLK	OUT	reserved
4	VDD_3V3	-	3.3 V Power supply
5	VSS	-	Ground
6	B_DATA	OUT	reserved
7	B_BCLK	OUT	reserved
8	B_FLAG	OUT	reserved
9	TRYPOS	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Tray rotation pulse input. CAPTURE_IN0 can be used.
10	SQUEEZE	OUT	Output signal for S-Video output S1/S2 control. 'H' : squeeze output mode.
11	RTS	OUT	UART(RS-232C) Request To Send signal output.
12	LETTER	OUT	Output signal for S-Video output S1/S2 control & EURO(SCART) connector (FUNCTION SWITCHING) signal. 'H' : letter-box output mode.
13	CTS	IN	UART(RS-232C) Clear To Send signal input.
14	VDD_1V8	-	1.8 V Power supply
15	VSS	-	Ground
16	FE_DATA	IN	Front-End L6316 stream interface. Serial data input.
17	FE_BCLK	IN	Front-End L6316 stream interface. Serial clock input.
18	FE_DVALID	IN	Front-End L6316 stream interface. Data valid flag input.
19	FE_SYNC	IN	Front-End L6316 stream interface. Serial synchronize flag input.
20	FE_EVALID	IN	Front-End L6316 stream interface. Error valid flag for RS_split.
21	FE_ECCBST	IN	Front-End L6316 stream interface. ECC block start flag for RS_split.
22	I/XP	OUT	Output signal for a change of interlace/Progressive output for video driver. 'L' : progressive 'H' : interlace
23	VDD_RGB	-	RGB circuit 3.3 V Power supply
24	VSS_RGB	-	RGB circuit Ground
25	B_OUT	OUT	B / Cb
26	G_OUT	OUT	G / Y
27	R_OUT	OUT	R / Cr
28	VREF_RGB	IN	RGB DAC reference
29	IREF_RGB	IN	RGB DAC current reference
30	VDD_YCC	-	YC circuit 3.3 V Power supply
31	VSS_YCC	-	YC circuit Ground
32	Y_OUT	OUT	Y
33	C_OUT	OUT	C
34	CV_OUT	OUT	CV
35	VREF_YCC	IN	YCC DAC reference
36	IREF_YCC	IN	YCC DAC current reference
37	VDD_1V8	-	1.8 V Power supply
38	VSS	-	Ground

No.	Pin Name	Dir.	Pin Function
39	XDRVMUTE	OUT	It is not connected except 5 Disc Changer.
			Only 5 Disc Changer. Output signal for motor driver muting. 'L' : muting
40	OPEN	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Input signal for tray position. 'H' : complete OPEN position.
41	CLOSE	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Input signal for tray position. 'H' : complete CLOSE position.
42	CLAMP	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Input signal for showing disc clamp position. 'H' : complete disc clamp position.
43	UNCLAMP	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Input signal for showing disc un-clamp position. 'H' : complete disc clamp position.
44	DISC_SNS	OUT	It is not connected except 5 Disc Changer.
		IN	Only 5 Disc Changer. Input signal for disc existing. 'L' : existing
45	XDRVMUTE2	OUT	reserved
46	TP-x	OUT	reserved
47	VDD_3V3	-	3.3 V Power supply
48	VDD_PCM	-	1.8 V Power supply
49	VSS_PCM	-	Ground
50	VSS	-	Ground
51	A_BCK	OUT	Audio DAC clock
52	A_DATA0	OUT	Audio DAC Front L,R data
53	A_DATA1	OUT	reserved
54	A_DATA2	OUT	reserved
55	A_MCLK	OUT	Audio DAC Master clock
56	A_LRCK	OUT	Audio DAC L/R clock
57	A_DOUT	OUT	S/PDIF(IEC60958) digital audio output.
58	SMI_A4	OUT	SMI SDRAM Address
59	SMI_A5		
60	SMI_A6		
61	SMI_A7		
62	SMI_A8		
63	SMI_A9		
64	VDD_1V8	-	1.8 V Power supply
65	VSS	-	Ground
66	SMI_A3	OUT	SMI SDRAM Address
67	SMI_A2		
68	SMI_A1		
69	SMI_A0		
70	SMI_A10		
71	SMI_A11		
72	SMI_A12		
73	SMI_A13		

No.	Pin Name	Dir.	Pin Function
74	SMI_CS0	OUT	SMI SDRAM chip select 'L'.
75	SMI_CS1	OUT	reserved
76	SMI_RAS	OUT	SMI SDRAM RAS 'L'
77	SMI_CAS	OUT	SMI SDRAM CAS 'L'
78	SMI_WE	OUT	SMI SDRAM Write Enable 'L'
79	SMI_DQML	OUT	SMI SDRAM Lower DQM 'L': Lower select
80	SMI_DQMU	OUT	SMI SDRAM Upper DQM 'L': Upper select
81	VDD_3V3	-	3.3 V Power supply
82	SMI_CLKIN	IN	External SDRAM clock input.
83	VSS	-	Ground
84	SMI_D0	I/O	SMI SDRAM Data
85	SMI_D1		
86	SMI_D2		
87	SMI_D3		
88	SMI_D4		
89	SMI_D5		
90	SMI_D6		
91	SMI_D7		
92	SMI_D8		
93	SMI_D9		
94	VDD_1V8	-	1.8 V Power supply
95	SMI_CLKOUT	OUT	SDRAM clock output.
96	VSS	-	Ground
97	SMI_D10	I/O	SMI SDRAM Data
98	SMI_D11		
99	SMI_D12		
100	SMI_D13		
101	SMI_D14		
102	SMI_D15		
103	TRACK_CROSS	OUT	reserved
104	DSD_XPCM	OUT	reserved
105	DAC_XRST	OUT	reserved
106	ADC_PCMCLK	OUT	reserved
107	VDD_3V3	-	3.3 V Power supply
108	VSS	-	Ground
109	XTRST	IN	Diagnostic Control Unit interface
110	TMS	IN	Diagnostic Control Unit interface
111	TDO	OUT	Diagnostic Control Unit interface
112	TDI	IN	Diagnostic Control Unit interface
113	TCK	IN	Diagnostic Control Unit interface
114	ROTDRV	OUT	Only 5 disc changer. PWM output for tray rotation.
115	BOOT_FROM_ROM	IN	Boot select 'L' : Boot from DCU. 'H' : Boot form ROM.
116	LOAD_DRV	OUT	Only 5 disc changer. PWM output for tray Open/Close drive.
117	CPU_OE	OUT	OE signal for 16M bits FLASH memory for firmware. 'L': enable

No.	Pin Name	Dir.	Pin Function
118	CPU_SDCK	OUT	CLOCK for 64M bits SDRAM for debugging firmware.
119	VDD_1V8	-	1.8 V Power supply
120	PIXCLK	IN	Master 27MHz system clock input.
121	VSS	-	Ground
122	VDD_PLL	-	Clock PLL circuit 1.8 V Power supply
123	VSS_PLL	-	Clock PLL circuit Ground
124	XRESET	IN	Power ON system RESET signal. 'L': reset
125	SACD_IRQ	IN	reserved
126	FP_XRDY	IN	Front Panel interface. Hand-shake input.
127	FE_INT	IN	Interrupt input signal from Front-End L6316.
128	F_XWE, SD_DQML	OUT	Flash memory write enable. Debug SDRAM/SRAM Lower DQM. 'L': enable, Lower select.
129	SD_DQMU	OUT	Debug SDRAM/SRAM Upper DQM 'L':upper select
130	SD_RXW	OUT	Debug SDRAM Read/Write 'L':write, 'H':read
131	CPU_WAIT	IN	CPU wait 'H' input
132	CE_FLASH	OUT	Flash memory Chip Enable 'L'.
133	CPU_CE2	OUT	reserved
134	CPU_CE1	OUT	reserved
135	SD_XRAS	OUT	Debug SDRAM RAS 'L' Debug SRAM chip enable 'L'
136	VDD_3V3	-	3.3 V Power supply
137	VSS	-	Ground
138	CPU_RAS1	OUT	reserved
139	SD_XCAS	OUT	Debug SDRAM CAS 'L'
140	SD_XCS	OUT	Debug SDRAM Chip Select 'L'
141	CPU_D0	I/O	FLASH, Debug SDRAM/SRAM data
142	CPU_D1		
143	CPU_D2		
144	CPU_D3		
145	CPU_D4		
146	CPU_D5		
147	CPU_D6		
148	CPU_D7		
149	VDD_1V8	-	1.8 V Power supply
150	VSS	-	Ground
151	CPU_D8	I/O	FLASH, Debug SDRAM/SRAM data
152	CPU_D9		
153	CPU_D10		
154	CPU_D11		
155	CPU_D12		
156	CPU_D13		
157	CPU_D14		
158	CPU_D15		
159	VDD_3V3	-	3.3 V Power supply
160	VSS	-	Ground

No.	Pin Name	Dir.	Pin Function
161	CPU_A1	OUT	FLASH, Debug SDRAM/SRAM Address
162	CPU_A2		
163	CPU_A3		
164	CPU_A4		
165	CPU_A5		
166	CPU_A6		
167	CPU_A7		
168	CPU_A8		
169	CPU_A9		
170	CPU_A10		
171	VDD_1V8	-	1.8 V Power supply
172	VSS	-	Ground
173	CPU_A11	OUT	FLASH, Debug SDRAM/SRAM Address
174	CPU_A12		
175	CPU_A13		
176	CPU_A14		
177	CPU_A15		
178	CPU_A16		
179	CPU_A17		
180	CPU_A18		
181	CPU_A19		
182	CPU_A20		
183	CPU_A21		
184	VDD_3V3	-	3.3 V Power supply
185	VSS	-	Ground
186	XEXPE	OUT	reserved
187	FE_ERROR	IN	Front-End L6316 stream interface. ECC Error flag
188	VSEL1	OUT	EURO(SCART) connector (BLINKING) output signal 'L' : RGB output disable 'H' : RGB output enable
189	VSEL2	OUT	EURO(SCART) connector V/Y, R/C signal. 'L' : VRGB output = YCGB 'H' : VRGB output = VRGB
190	FE_RST	OUT	Front-End L6316. Hardware reset output. 'L' : reset
191	SACD_XRST	OUT	reserved
192	XMMUTE	OUT	reserved
193	B_SYNC	OUT	reserved
194	SDA	I/O	Front-End L6316 command interface I2C bus serial data line.
195	SCL	OUT	Front-End L6316 command interface I2C bus serial clock line.
196	B_WCLK	OUT	reserved
197	TXD	OUT	UART(RS-232C) data output
198	VDD_1V8		1.8 V Power supply
199	VSS	-	Ground
200	RXD	IN	UART(RS-232C) data input

No.	Pin Name	Dir.	Pin Function
201	XAMUTE	OUT	Output signal for analog audio output line muting. 'L' : muting
202	TRIGIN	IN	Diagnostic Control Unit interface
203	TRIGOUT	OUT	Diagnostic Control Unit interface
204	DAC_XCS0	OUT	Chip enable for audio DAC serial control. 'L' : enable
205	DAC_XCS1	OUT	reserved
206	FP_ACK	OUT	Front Panel / DAC interface. Hand-shake (acknowledge) output 'H'.
207	FP_SCK	OUT	Front Panel / DAC interface. Serial transfer clock output.
208	FP_SI	IN	Front Panel interface. Serial transfer data input.

■ PDC108A (IF/AF ASSY : IC5501)

• System Control Microcomputer

● Pin Functions

No.	Mark	Pin Name	I/O	Function
1	PA3/WR#	XHPMUTE	O	Control of Headphone mute
2	PA4/RD#	HPDET	I	Detect to insert headphone
3	PA5/RS	ATT6	O	Control for ATT 6dB
4	P70 / INT0 / T0LCP / AN8	ACPULSE	I	AC PULSE input (Interruption)
5	P71 / INT1 / T0HCP / AN9	TIMER LED	O	Control mute of timer LED
6	P72 / INT2 / T0IN	RDS CLK	I	Clock input from RDS decoder
7	P73 / INT3 / T0IN	REMOCON	I	REMOCON signal input (Interruption)
8	RES#	XRESET	I	μ-com reset input
9	XT1 / AN10	XT1	–	(When this port don't use , please connect VDD)
10	XT2 / AN11	XT2	–	(When this port don't use , please set open)
11	VSS1	VSS1	–	
12	CF1	CF1	–	
13	CF2	CF2	–	
14	VDD1	VDD1	–	
15	P80 / AN0	SIMUKE	I	Destination distinction input
16	P81 / AN1	LEVELIN	I	Level meter signal input
17	P82 / AN2	VDET	I	DVD 3.3V detection input
18	P83 / AN3	XPROTECT	I	Protection and Fan Error detection input
19	P84 / AN4	ST/TUNE	I	STEREO tuned detection input
20	P85 / AN5	KEY 1	I	key1 input
21	P86 / AN6	KEY 2	I	Key 2 input
22	P87 / AN7	KEY 3	I	Key 3 input
23	P10/SO0	SDATA	O	System bus data output (AMP side output)
24	P11 / SI0 / SB0	MDATA	I	System bus data input (AMP side input)
25	P12 / SCK0	SCLK	I	System bus clock input
26	P13 / SO1	DSPDI	O	Data output to DSP (MOTOROLA) and DIR
27	P14 / SI1 / SB1	DSPDO	I	Data input from DSP (MOTOROLA)
28	P15 / SCK1	DSPCK	O	Clock output to DSP (MOTOROLA) and DIR
29	P16/T1PWML	XDSPMUTE	O	MUTE request to DSP module
30	P17/T1PWMH/BUZ	DEC MUTE	I	Detection of 1st DSP boot success from DSP module
31	PE0	DSPRST	O	RESET to DSP(MOTOROLA) Module
32	PE1	DSPSS	O	Slave selection to DSP(MOTOROLA)
33	PE2	BUSY	I	For MCACC
34	PE3	DSPHREQ	I	Error detection from DSP(MOTOROLA)
35	PE4	DIRERR	I	LOCK/UNLOCK from DIR
36	PE5	DIRDD	I	Data input from DIR/CODEC
37	PE6	DIRCS	O	Data output to DIR/CODEC
38	PE7	DIRRST	O	Reset to DIR /CODEC
39	VSS4	VSS4		
40	VDD4	VDD4		

No.	Mark	Pin Name	I/O	Function
41	PF0	DSPMODE	O	MODE selection(ROM/RAM) to DSP(MOTOROLA)
42	PF1	XTL0	O	Selection X'tal to DIR
43	PF2	TXCE	O	Chip enable for tuner LSI
44	PF3	TXCLK	O	Clock for tuner LSI
45	PF4	TXIDATA	O	Data for tuner LSI
46	PF5	TXMUTE	O	Control mute of tuner
47	PF6	TCMSIN	I	Input MS signal
48	PF7	TXODATA	I	input data from tuner LSI
49	SI2P0/SO2	TCEXPOE	O	Output enable to EXPAND IC for deck
50	SI2P1/SI2/SB2	TCEXPCLK	O	Clock to EXPAND IC for deck
51	SI2P2/SCK2	TCEXPCE	O	Chip enable to EXPAND IC for deck
52	SI2P3/SCK20	TCEXPDAT	O	Data toEXPAND EXPAND IC for deck
53	PWM1	NC		NC
54	PWM0	NC		NC
55	VDD2	VDD2		
56	VSS2	VSS2		
57	P00	SYS_CS2	O	Chip select 2 for system bus
58	P01	SYS_CS1	O	Chip select 1 for system bus
59	P02	EXPOE	O	Output enable to EXPAND IC for Vocal fader, level shift and echo
60	P03	EXPCE	O	Chip enable to EXPAND IC for Vocal fader, level shift and echo
61	P04	LCDDAT	O	Data for tuner FL(LCD) driver
62	P05	LCDCLK	O	Clock for tuner FL(LCD) driver
63	P06	VOCALC	O	Control for vocal C
64	P07	VOCALB	O	Control for vocal B
65	P20/INT4/T1IN	VOCALA	O	Control for vocal A
66	P21/INT4/T1IN	DVDPOWER	O	Control power supply for DVD module
67	P22/INT4/T1IN	XDVDRST	O	Control mute of AUX output
68	P23/INT4/T1IN	TESTMODE	I	Set TEST MODE for product line (service) and unit checker
69	P24/INT5/T1IN	SERIVCE	I	Set SELF CHECK for service
70	P25/INT5/T1IN	DVDACK	I	Ackknowiegement from DVD MODULE (Interruption)
71	P26/INT5/T1IN	XVMUTE	O	Wake up request to DVD MODULE
72	P27/INT5/T1IN	ECHCNT1	O	Control of echo level 1
73	P30	ECHCNT2	O	Control of echo level 2
74	P31	KCCONSTB	O	Strobe for Key Control IC
75	P32	KCONCLK	O	Clock for Key Control IC
76	P33	KCONDATA	O	Data for Key Control IC
77	P34	INPUTSELB	O	AUDIO source SELECT B
78	P35	INPUTSELA	O	AUDIO source SELECT A(CD,TUNER,TAPE,AUX) BU4052
79	P36	TCHALF	I	Input switch of mecha half
80	PB7/D7	TCMODE	I	Input switch of mecha mode

No.	Mark	Pin Name	I/O	Function
81	PB6/D6	TCRECF	I	Input switch of mecha during recording forward
82	PB5/D5	TCRECR	I	Input switch of mecha during recording reverse
83	PB4/D4	RDSPOW	I	Control power supply of RDS (L : POWER ON)
84	PB3/D3	RDSDATA	O	Input RDS data
85	PB2/D2	TCPULSE	O	Input pulse of TC reel
86	PB1/D1	RYR	O	REAR RELAY ON/OFF
87	PB0/D0	RYFSC	O	FRONT / SW / CENTER RELAY ON/OFF
88	VSS3	VSS3	–	
89	VDD3	VDD3	–	
90	PC7/A7	XAUXMUTE	O	Control mute AUX output
91	PC6/A6	SYSPOW	O	Control power supply of system
92	PC5/A5	DVDMUTE	I	Control mute of DVD MODULE(Interrruption)
93	PC4/A4	XMUTEC	O	C ch MUTE ON/OFF
94	PC3/A3	XSYSMUTE	O	Control mute of system
95	PC2/A2	(VOLMUTE)	O	(Contorol mute of E-vol IC)
96	PC1/A1	VOLCLK	O	Clock for E-vol IC
97	PC0/A0	VOLDATA/CE	O	Data/CE for E-vol IC
98	PA0/CS2#	FLASHE/D	–	for FLASH writing
99	PA1/CS1#	FLASHDO	–	for FLASH writing
100	PA2/CS0#	FLASHCLK	–	for FLASH writing

- Port0 (P00-P07) can be selected for input or output by each 4 bits (P00-P03,P04-P07). Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- Port1 (P10-P17) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1bit in option.
- Port2 (P20-P27) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- Port3 (P30-P36) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- Port7 (P70-P73) can be selected for input or output by each 1 bit. Set for input when reset.
- Port8 (P80-P87) can be selected for input or output by each 1 bit. Set for input when reset.
- PortA (PA0-PA5) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- PortB (PB0-PB7) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- PortC (PC0-PC7) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- PortE and PortF can be selected for input or output by each 2 bits.

- In case of without RDS, it is best that RDSDATA and RDSCLK are assigned as I/O port which can be set output and output low level.

7.3 CLEANING

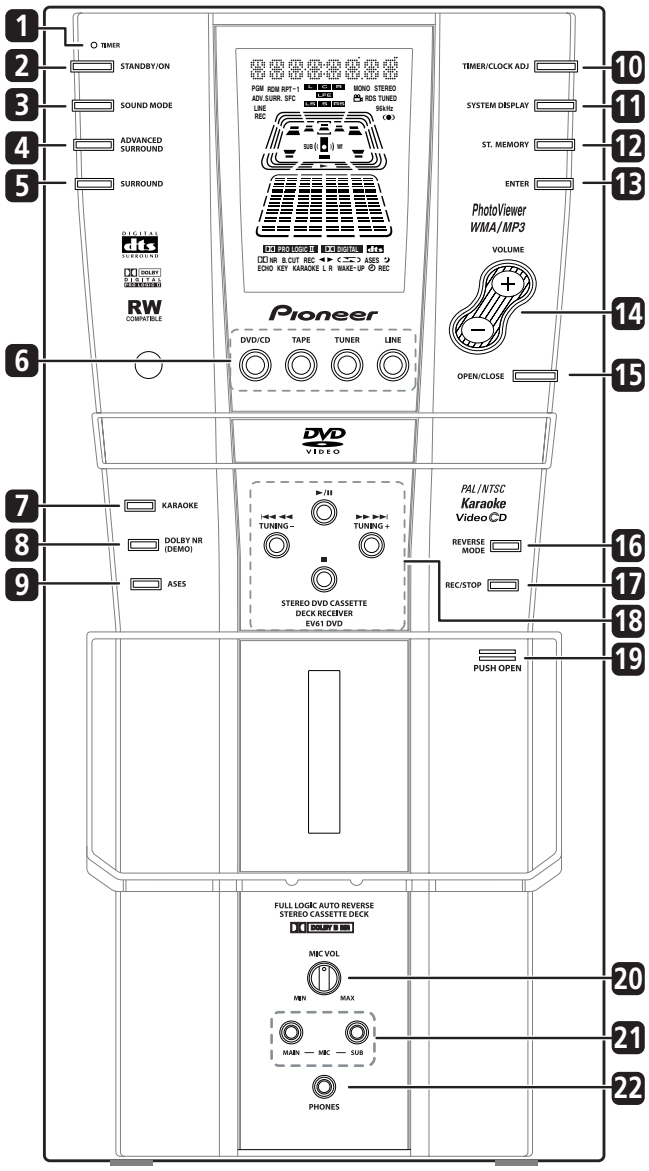
Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

8. PANEL FACILITIES

Front panel

The front panel controls for the EV61DVD model are shown in the illustrations below.



1 TIMER indicator
Lights in standby when the timer has been set

2 STANDBY/ON
Switches the player on or into standby

3 SOUND MODE
Adjusts the tone. Also use to adjust the balance (EV31DVD model only) and DSP controls (EV61DVD model only)

4 ADVANCED SURROUND
(EV61DVD model)
Selects an advanced listening mode

VIRTUAL SURROUND*(EV31DVD model)*
Switches the Virtual Surround effect on or off

5 SURROUND*(EV61DVD model)*
Selects a surround listening mode

SFC*(EV31DVD model)*
Selects sound modes or custom settings from the Sound Field Control

6 Function select buttons
Selects the source you want to listen to

7 KARAOKE
Selects audio channels for karaoke

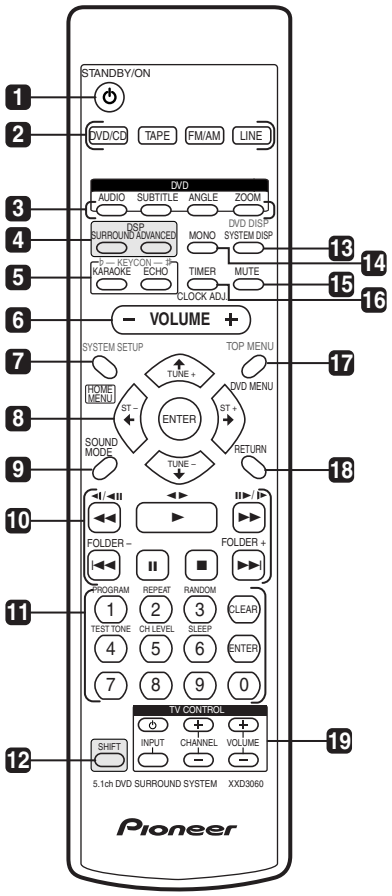
8 DOLBY NR (DEMO)
Switches Dolby Noise Reduction on or off

9 ASES
Press for CD-to-tape synchro recording

10 TIMER/CLOCK ADJ.
Use for setting the clock , as well as for setting and checking the timers

Remote control

The remote control for the EV61DVD model is shown in the illustration below.



1 STANDBY/ON (⏻)
Switches the player on or into standby

2 Function select buttons
Selects the source you want to listen to

3 DVD control buttons

AUDIO
Selects the audio channel or language

11 SYSTEM DISPLAY
Switches between information and clock displays .

12 ST. MEMORY
Use for saving and listening to station presets

13 ENTER
Select an option or execute a command

14 VOLUME +/–
Adjusts the volume level

15 OPEN/CLOSE
Opens/closes the disc tray

16 REVERSE MODE
Selects the playback mode for tapes.

17 REC/STOP
Starts/stops recording on the tape deck

18 TUNING and playback control buttons
The tuning/scan/skip buttons are used for tuning into stations, skipping or scanning tracks on discs or tapes. The playback control button is used for playing, pausing and stopping playback.

19 PUSH OPEN indicator
Pressing down on this side on the cassette door will open the tape deck

20 MIC VOL
Controls the volume of the karaoke mics

21 MIC input jacks

22 PHONES jack
Headphone jack

SUBTITLE
Selects a subtitle display

ANGLE
Changes the camera angle during DVD multi-angle scene playback

ZOOM
Changes the zoom level

4 DSP buttons (EV61DVD model)

SURROUND
Use to select a surround mode

ADVANCED
Use to select an Advanced surround mode

Sound Field buttons (EV31DVD model)

SFC
Selects sound modes or custom settings from the Sound Field Control

VIRTL. SURR.
Switches the Virtual Surround effect on or off

5 KARAOKE buttons

KARAOKE
Selects audio channels for karaoke

ECHO
Changes the echo level on the karaoke mics

KEYCON (SHIFT+KARAOKE/ECHO)
Lowers/raises the pitch of the backing track

6 VOLUME
Adjusts the volume level

7 HOME MENU
Press to display (or exit) the on-screen menu for Initial Settings, Play Mode functions, etc.

SYSTEM SETUP (SHIFT+HOME MENU)
(EV61DVD model)
Use to make various system and surround sound settings

8 ENTER, TUNE & cursor control buttons
Navigates on-screen displays and menus. **ENTER** selects an option or executes a command.

9 SOUND MODE
Adjusts the tone. Also use to adjust the balance (EV31DVD model only) and DSP controls (EV61DVD model only)

10 Playback controls

► and ◄ ►
Starts/resumes playback

◄◄ and ◄❙/◄❚❚
Use for reverse slow motion playback, frame reverse and reverse scanning

►► and ❙►/❚❚►
Use for forward slow motion playback, frame advance and forward scanning

►►❙
Jumps to the next chapter or track

❙◄◄
Jumps to the beginning of the current chapter or track, then to previous chapters/ tracks

❚❚
Pauses playback; press again to restart

■
Stops playback

11 Number buttons and SHIFT functions
The number buttons can be used for selecting tracks directly, the functions above the buttons are accessed by pressing **SHIFT** at the same time as the button.

PROGRAM (SHIFT+1)
Use to program/play a program list

REPEAT (SHIFT+2)
Selects a repeat play mode

RANDOM (SHIFT+3)
Selects a random play mode

TEST TONE (SHIFT+4)
(EV61DVD model only)
Press to output the test tone for speaker setup

CH LEVEL (SHIFT+5)
(EV61DVD model only)
Use to adjust the speaker level

SLEEP (SHIFT+6)
Switches the sleep timer on or off

CLEAR
Clears an entry

ENTER
Selects menu options, etc. (works exactly the same as the **ENTER** button in 8 above)

12 SHIFT
Press to access the functions/commands written in green on the remote

13 SYSTEM DISP
Switches between information and clock displays

DVD DISP (SHIFT+SYSTEM DISP)
Changes the information shown in the display

14 MONO
Press to listen to a stereo FM broadcast in mono (sound quality is usually improved)

15 MUTE
Mutes the volume

16 TIMER/CLOCK ADJ.
Use for setting the clock , as well as for setting and checking the timers

17 DVD MENU
Displays the DVD menu (for CDs, Video CD/ Super VCDs, and WMA/MP3 discs, the Disc Navigator screen appears)

TOP MENU (SHIFT+DVD MENU)
Displays the top menu of a DVD disc

18 RETURN
Press to return to a previous menu screen

19 TV CONTROL

⏻

Switches the TV on or into standby

INPUT
Switches the TV input

CHANNEL +/–
Selects channels

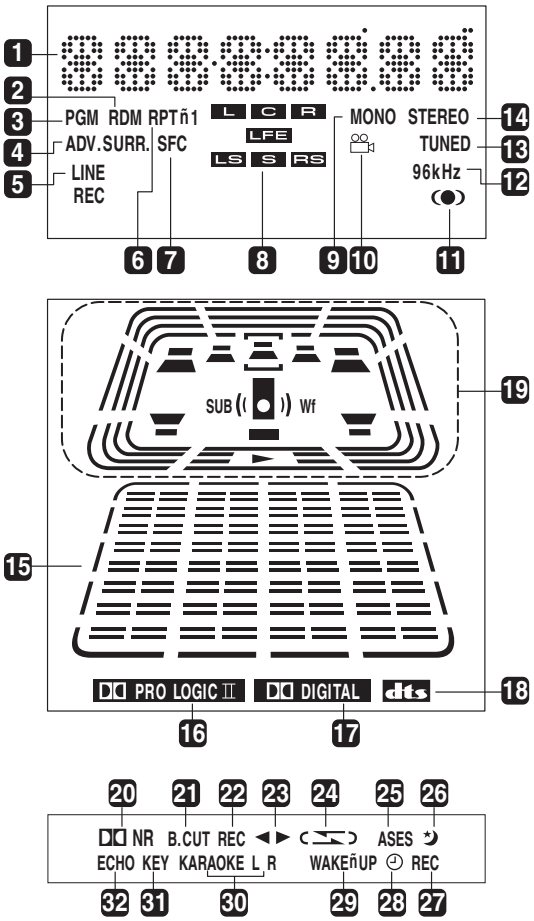
VOLUME +/–
Adjusts the volume on the TV

Note

- Refer to Setting up the remote to control your TV on to use these controls with your TV.

Display

The front panel display for the EV61DVD model is shown in the illustration below.



1 Character display

2 RDM
Lights during random playback

3 PGM
Lights during program play

4 ADV. SURR. *(EV61DVD model only)*
Lights when one of the Advanced Surround listening modes is selected

5 LINE REC *(EV61DVD model only)*
Lights when the line recording mode is switched on (see *Recording mode* on page 60).

6 RPT-1
RPTlights during repeat play (**RPT-1**lights during repeat one-track play)

7 SFC *(EV31DVD model only)*
Lights when one of the Sound Field Control listening modes is selected

8 Format indicator *(EV61DVD model only)*
These indicators will light according to which channels are encoded on the Dolby Digital or DTS multichannel disc currently in the player.
LFElights when the disc has an LFE channel.

9 MONO
Lights when FM mono reception is selected

10
Lights during multi-angle scenes on a DVD disc

11 *(EV31DVD model only)*
Lights when Virtual Surround is switched on

12 96 kHz
Lights when a 96kHz source is detected
(may not light correctly if the source is copy–protected)

13 TUNED
Lights when a broadcast is being received

14 STEREO
Lights when a stereo FM broadcast is being received in auto stereo mode

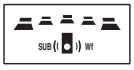
15 Level meter
Shows the sound levels of the source selected

16 PRO LOGIC II *(EV61DVD model only)*
Lights during Dolby Pro Logic decoding

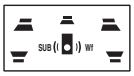
17 DIGITAL
Lights during playback of a Dolby Digital signal

18 DTS *(EV61DVD model only)*
Lights during playback of a DTS source

19 Speaker and playback indicators
The playback indicator (►) lights during playback, and the speaker indicators show which speakers are being used to output the current source. The illustrations below show some example displays.

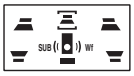


5.1 channel surround sound with Extra Power mode or Extra Power Surround mode active (EV61DVD model only)



5.1 channel surround sound (EV61DVD model only)

Stereo (2.1 channel) sound (with subwoofer)



5.1 channel surround sound with Dialogue enhancement and the Virtual Surround Back mode active (EV61DVD model only)

(When headphones are connected, none of the speaker indicators are lit.)

20 NR
Lights when Dolby Noise Reduction is on

21 B.CUT
Lights when the beat cut mode has been switched to **B.CUT 2**

22 REC
Lights when recording to the tape deck

23
Indicates the direction of tape playback

24
Indicates the reverse mode:

- – Single side playback
- – Auto-reverse playback: stops after finishing playback in the 'reverse' (◄) direction
- – Continuous playback (up to 16 complete plays)

25 ASES
Lights during ASES recording

26
Lights when the sleep timer is active

27 REC
Lights when the record timer is set and flashes when the timer starts recording

28
Lights when either timer is set and flashes when they activate

29 WAKE-UP
Lights when the wake-up timer is set and flashes when the wake-up timer activates

30 KARAOKE L R
Lights when one of the Karaoke modes is selected:

- **KARAOKE**(Vocal cancel) – Vocals in the backing track are partially eliminated using EQ.
- **L** – Left channel only. Use for tracks that have a vocal recorded in the right channel.
- **R** – Right channel only. Use for tracks that have a vocal recorded in the left channel.
- **L R**– Use to put a single-channel vocal track into the center of the mix.

31 KEY
Lights when the Karaoke pitch control is selected

32 ECHO
Lights when the Karaoke **ECHO** effect is selected